MDX-CA680/CA680X

SERVICE MANUAL

Ver 1.1 2001.05

US Model
MDX-CA680X
AEP Model
UK Model
MDX-CA680/CA680X

Photo: MDX-CA680X (US model)

U.S. and foreign patents licensed from Dolby laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Base Mechanism Type	MG-164MA-138
Optical Pick-up Name	KMS-241C

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
23 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 5% total harmonic distortion.

MD Player section

Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties (US model)	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser output power	Less than 44.6 µW*

** This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.*

Tuner section

FM

Tuning range	
US model:	87.5 – 107.9 MHz
AEP, UK models:	87.5 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	66 dB (stereo), 72 dB (mono)
Harmonic distortion at 1 kHz	0.6 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM (US model)

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

MW/LW (AEP, UK models)

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 279 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	MW: 30 µV LW: 40 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	50 W × 4 (at 4 ohms)

General

Outputs	Audio outputs (front/rear) Power antenna relay control lead Power amplifier control lead
Inputs	Telephone ATT control lead BUS control input connector BUS audio input connector Remote controller input connector
Tone controls	Antenna input connector
US model:	Bass ±10 dB at 100 Hz Treble ±10 dB at 15 kHz
AEP, UK models:	Bass ±9 dB at 100 Hz Treble ±9 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 177 mm ($7\ ^1/_8 \times 2 \times 7$ in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 161 mm ($7\ ^1/_4 \times 2\ ^1/_8 \times 6\ ^3/_8$ in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb 10 oz)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Note

This unit cannot be connected to a digital preamplifier or an equalizer.

Design and specifications are subject to change without notice.

FM/AM (MW/LW) MINIDISC PLAYER

9-870-242-12
2001E0500-1
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Sony Corporation
e Vehicle Company
Shinagawa Tec Service Manual Production Group

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NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

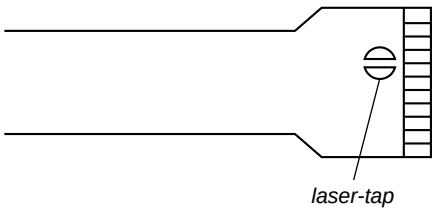
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

Never look into the laser diode emission from right avove when checking it for adustment. It is feared that you will lose your sight.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (KMS-241C).

The laser diode in the optical pick-up block may suffer electrostatic break-down easily. When handling it, perform soldering bridge to the laser-tap on the flexible board. Also perform measures against electrostatic break-down sufficiently before the operation. The flexible board is easily damaged and should be handled with care.



OPTICAL PICK-UP FLEXIBLE BOARD

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

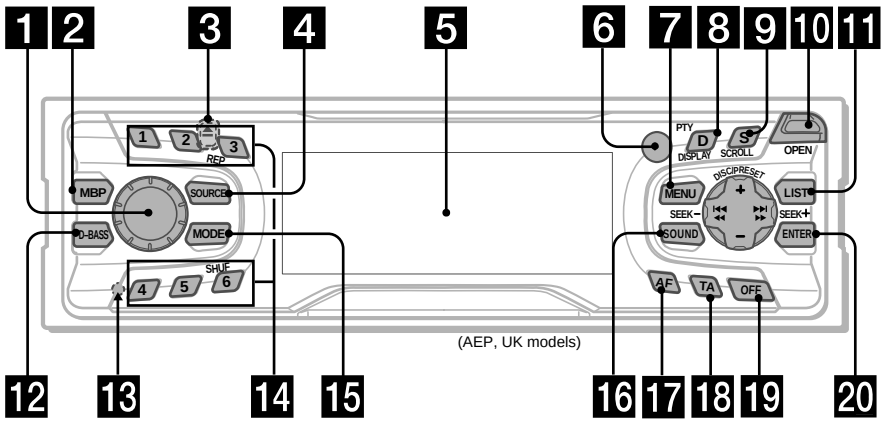
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

Location of controls

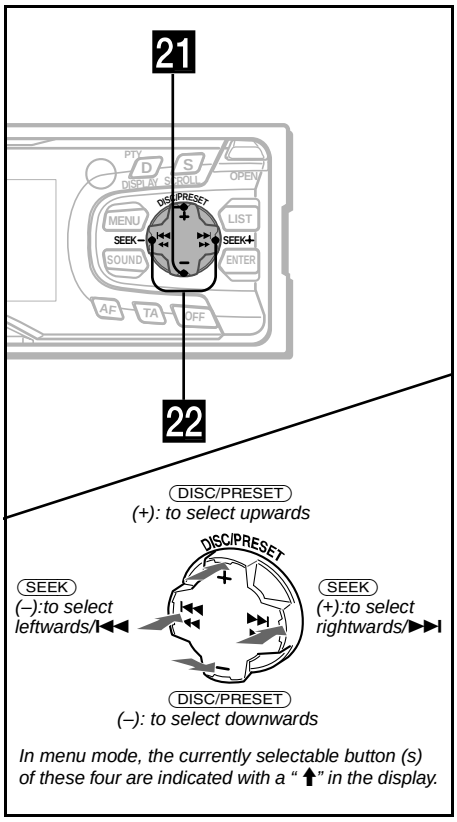
Refer to the pages listed for details.
CD/MD: During Playback RADIO: During radio reception MENU: During menu mode



1 **Volume control dial** 16
2 **MBP button** 22
3 **⏏ (eject) button** (located on the front side of the unit, behind the front panel) 9
4 **SOURCE (Power on/Radio/CD/MD) button** 8, 9, 11, 13, 14, 16
5 **Display window**
6 **Receptor for the card remote commander**
7 **MENU button** 8, 10, 11, 12, 13, 17, 18, 21
8 **DISPLAY/PTY***1 **(display mode change/ programme type) button** 9, 11, 15, 18
9 **SCROLL button** 9
10 **OPEN button** 7, 9
11 **LIST button**
CD/MD 11
RADIO 14
12 **D-BASS button** 22
13 **RESET button** (located on the front side of the unit, behind the front panel) 7
14 **Number buttons**
CD/MD
(3) **REP** 10
(6) **SHUF** 10
RADIO 13, 14, 16, 17
15 **MODE button**
CD/MD 9, 11
RADIO 13, 14, 16
16 **SOUND button** 20, 22
17 **AF button***1 15, 17
18 **TA button** *1 16, 17
19 **OFF (Stop/Power off) button***2 7, 9
20 **ENTER button**
CD/MD 11
RADIO 14, 18
MENU 8, 10, 11, 12, 13, 17, 18, 21

*1 **AEP, UK models only**

*2 **Warning when installing in a car without an ACC (accessory) position on the ignition switch**
After turning off the ignition, be sure to press (OFF) on the unit for 2 seconds to turn off the clock display.
Otherwise, the clock display does not turn off and this causes battery drain.



In menu mode, the currently selectable button (s) of these four are indicated with a " ⬆" in the display.

21 DISC/PRESET buttons (+/–)

CD/MD *9, 11*
RADIO *13, 14, 18*
MENU *8, 10, 11, 12, 13, 17, 18, 21*

22 SEEK buttons (–/+)

CD/MD *9*
RADIO *13, 14, 16*
MENU *8, 10, 12, 18, 20, 21*

Setting the clock

The clock uses a 12-hour (US model) or 24-hour (AEP, UK models) digital indication.

Example: To set the clock to 10:08

1 Press (MENU), then press either side of (DISC/PRESET) repeatedly until "CLOCK" appears.

❶ Press (ENTER).
The hour indication flashes.

❷ Press either side of (DISC/PRESET) to set the hour.

❸ Press the (+) side of (SEEK).
The minute indication flashes.

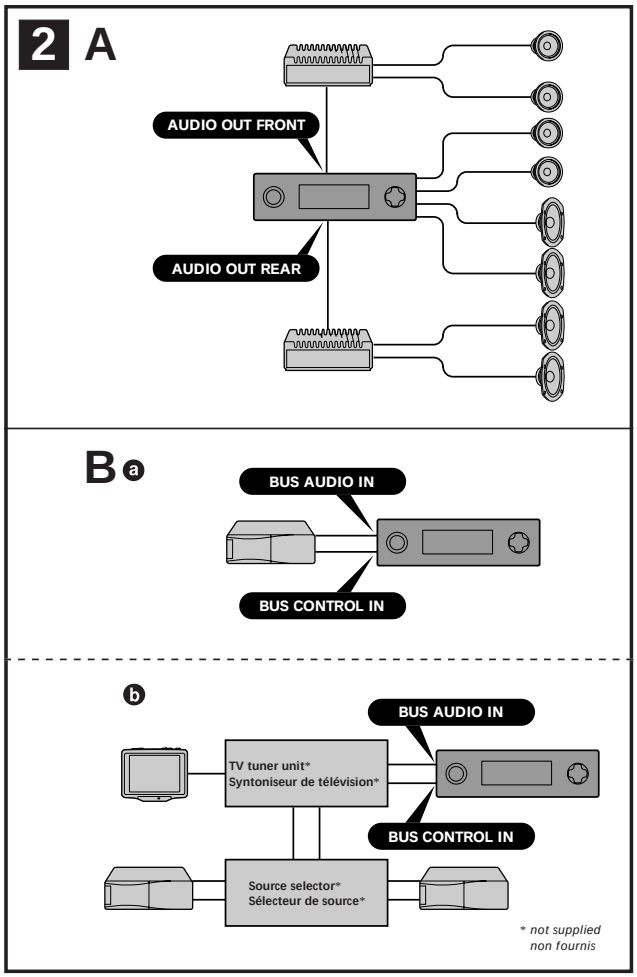
❹ Press either side of (DISC/PRESET) to set the minute.

2 Press (ENTER).

The clock starts. After the clock setting is completed, the display returns to normal play mode.

Tips

- *You can set the clock automatically with the RDS feature (page 18).*
- *When D.INFO mode is set to ON, the time is always displayed (page 21).*



(US model)

Cautions

- This unit is designed for negative ground 12 V DC operation only.
- Do not get the wires under a screw, or caught in moving parts (e.g. seat railing).
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- **Run all ground wires to a common ground point.**
- Be sure to insulate any loose unconnected wires with electrical tape for safety.
- The use of optical instruments with this product will increase eye hazard.

Notes on the power supply cord (yellow)

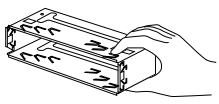
- When connecting this unit in combination with other stereo components, the connected car circuit's rating must be higher than the sum of each component's fuse.
- When no car circuits are rated high enough, connect the unit directly to the battery.

Parts list (1)

The numbers in the list are keyed to those in the instructions.

Caution

Handle the bracket ① carefully to avoid injuring your fingers.



Connection example (2)

***Notes* (2-A)**

- *Be sure to connect the ground cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

***Tip* (2-B- ⓑ)**

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.

Connection diagram (3)

❶ **To a metal surface of the car**
First connect the black ground lead, then connect the yellow and red power input leads.

❷ **To the power antenna control lead or power supply lead of antenna booster amplifier**
Notes
- *It is not necessary to connect this lead if there is no power antenna or antenna booster, or with a manually-operated telescopic antenna.*
- *When your car has a built-in FM/AM antenna in the rear/side glass, see "Notes on the control and power supply leads."*

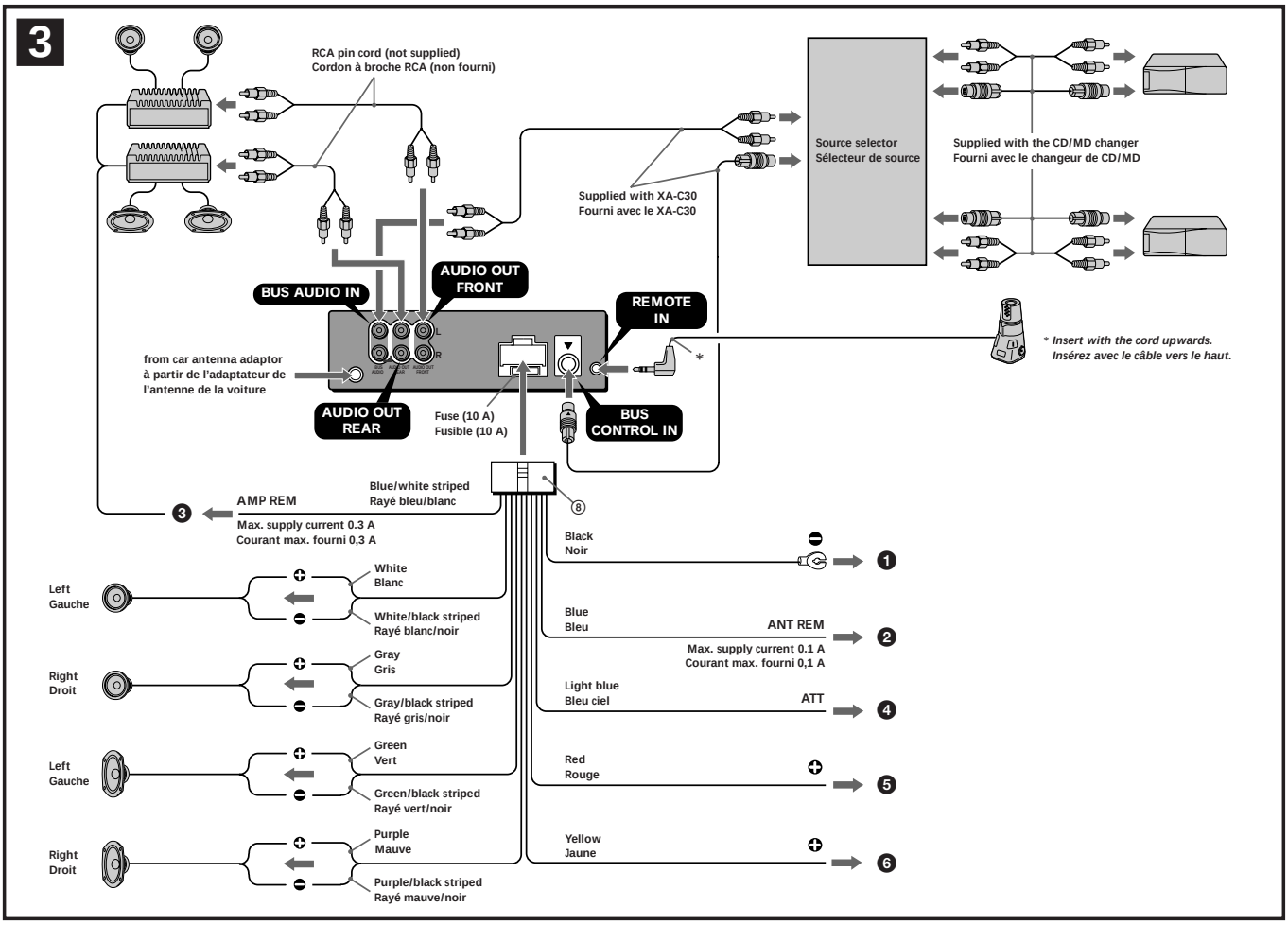
❸ **To AMP REMOTE IN of an optional power amplifier**
This connection is only for amplifiers. Connecting any other system may damage the unit.

❹ **To the interface cable of a car telephone**

❺ **To the +12 V power terminal which is energized in the accessory position of the ignition key switch**
Notes
- *If there is no accessory position, connect to the +12 V power (battery) terminal which is energised at all times.*
  Be sure to connect the black ground lead to it first.
- *When your car has a built-in FM/AM antenna in the rear/side glass, see "Notes on the control and power supply leads."*

❻ **To the +12 V power terminal which is energised at all times**
Be sure to connect the black ground lead to it first.

(US model)



Notes on the control and power supply leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner.*
- *When your car has built-in FM/AM antenna in the rear/side glass, connect the power antenna control lead (blue) or the accessory power input lead (red) to the power terminal of the existing antenna booster. For details, consult your dealer.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.*
- *Do not connect the ground lead of this unit to the negative (–) terminal of the car.*
- *Do not attempt to connect the speakers in parallel.*
- *Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.*
- *To avoid malfunction, do not use the built-in speaker wires installed in your car if its unit end share a common negative (–) lead for the right and left speakers.*
- *Do not connect the unit's speaker cords to each other.*

Précautions

- Cet appareil est exclusivement conçu pour fonctionner sur une tension de 12 V CC avec masse négative.
- Evitez de fixer des vis sur les câbles ou de coincer ceux-ci dans des pièces mobiles (par exemple, armature de siège).
- Avant d'effectuer les raccordements, débranchez la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Raccordez les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres raccordements.
- **Rassemblez tous les fils de terre en un point de masse commun.**
- Veillez à isoler avec du chatterton tout fil lâche non raccordé.

Remarques sur le cordon d'alimentation (jaune)

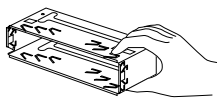
- Lorsque cet appareil est raccordé à d'autres éléments stéréo, la valeur nominale des circuits de la voiture raccordée doit être supérieure à la somme des fusibles de chaque élément.
- Si aucun circuit de la voiture n'est assez puissant, raccordez directement l'appareil à la batterie.

Liste des composants (1)

Les numéros de l'illustration correspondent à ceux des instructions.

Attention

Manipulez précautionneusement le support ① pour éviter de vous blesser aux doigts.



Exemple de raccordement (2)

***Remarques* (2-A)**

- *Raccordez d'abord le fil de masse avant de raccorder l'amplificateur.*
- *Si vous raccordez un amplificateur de puissance indépendant et que vous n'utilisez pas l'amplificateur intégré, le bip sonore est désactivé.*

***Conseil* (2-B-⓫)**

Dans le cas du raccordement de deux changeurs ou plus, le sélecteur de source XA-C30 (en option) est indispensable.

Schéma de raccordement (3)

❶ **à un point métallique de la voiture**
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.

❷ **vers le fil de commande de l'antenne électrique ou le fil d'alimentation de l'amplificateur d'antenne**
Remarques
- *Il n'est pas nécessaire de raccorder ce fil s'il n'y a pas d'antenne électrique ni d'amplificateur d'antenne, ou avec une antenne télescopique manuelle.*
- *Si votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, voir "Remarques sur les fils de commande et d'alimentation".*

❸ **au niveau du AMP REMOTE IN de l'amplificateur de puissance en option**
Ce raccordement s'applique uniquement aux amplificateurs. Le branchement de tout autre système risque d'endommager l'appareil.

❹ **vers le cordon de liaison d'un téléphone de voiture**

❺ **à la borne +12 V qui est alimentée quand la clé de contact est sur la position accessoires**
Remarques
- *S'il n'y a pas de position accessoires, raccordez la borne d'alimentation (batterie) +12 V qui est alimentée en permanence. Raccordez d'abord le fil de masse noir.*
- *Si votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, voir "Remarques sur les fils de commande et d'alimentation".*

❻ **à la borne +12 V qui est alimentée en permanence**
Raccordez d'abord le fil de masse noir.

Remarques sur les fils de commande et d'alimentation

- *Le fil de commande de l'antenne électrique (bleu) fournit une alimentation de + 12 V CC lorsque vous mettez l'appareil sous tension.*
- *Lorsque votre voiture est équipée d'une antenne FM/AM intégrée dans la vitre arrière/latérale, raccordez la sortie de commande de l'antenne (bleu) ou l'entrée d'alimentation des accessoires (rouge) au bornier de l'amplificateur d'antenne existant. Pour plus de détails, consultez votre revendeur.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

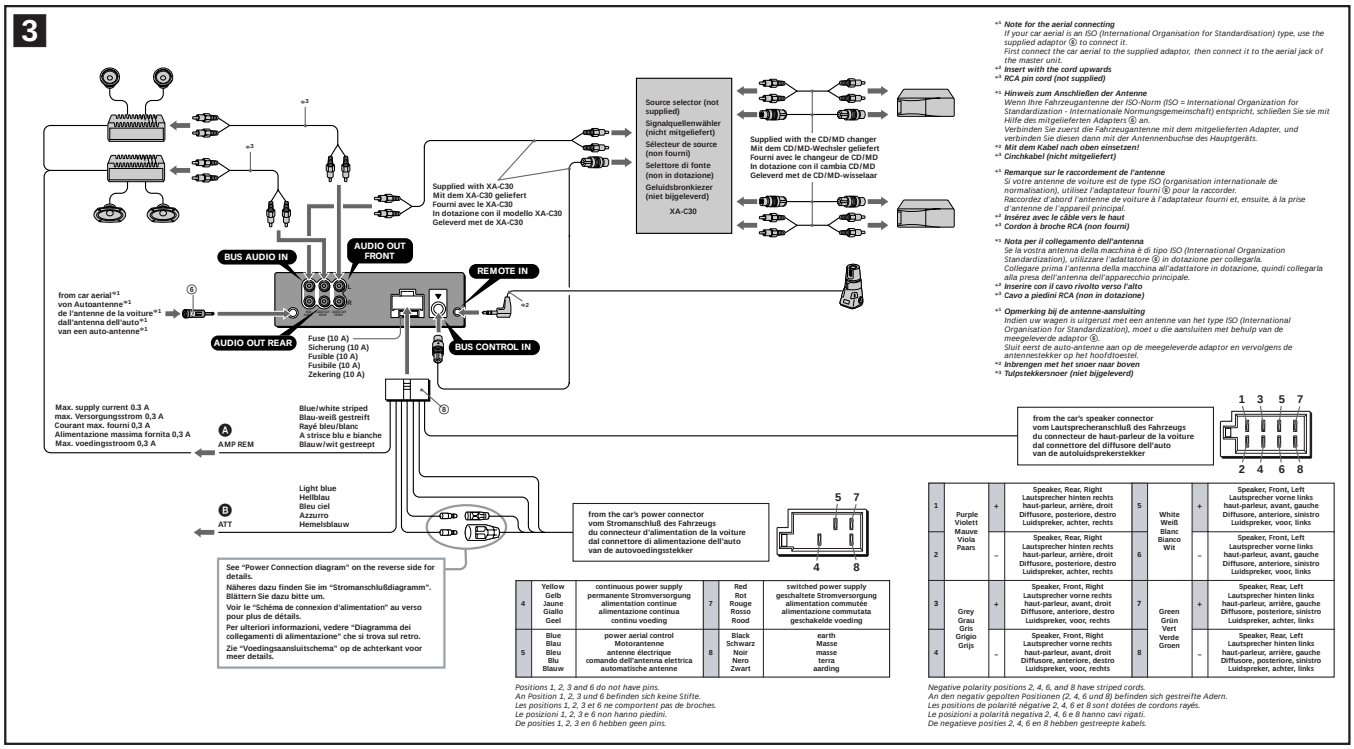
Raccordement pour la conservation de la mémoire

Lorsque le fil d'entrée d'alimentation jaune est raccordé, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur le raccordement des haut-parleurs

- *Avant de raccorder les haut-parleurs, mettez l'appareil hors tension.*
- *Utilisez des haut-parleurs ayant une impédance de 4 à 8 ohms avec une capacité de manipulation adéquate pour éviter de les endommager.*
- *Ne raccordez pas les bornes du système de haut-parleur au châssis de la voiture et ne raccordez pas les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne raccordez pas le câble de masse de cet appareil à la borne négative (–) de l'enceinte.*
- *N'essayez pas de raccorder les haut-parleurs en parallèle.*
- *Raccordez uniquement des haut-parleurs passifs. Le raccordement de haut-parleurs actifs (avec amplificateurs intégrés) aux bornes des haut-parleurs peut endommager l'appareil.*
- *Pour éviter tout dysfonctionnement, n'utilisez pas les fils des haut-parleurs intégrés installés dans votre voiture si l'appareil partage un fil négatif commun (–) pour les haut-parleurs droit et gauche.*
- *Ne raccordez pas entre eux les cordons des haut-parleurs de l'appareil.*

(AEP, UK Models)


3
Source selector (not supplied)
Signalquellenwähler (nicht mitgeliefert)
Sélecteur de source (non fourni)
Selettore di fonte (non in dotazione)
Geluidsbronkiezer (niet bijgeleverd)
XA-C30
Supplied with the CD/MD changer
Mit dem CD/MD-Wechsler geliefert
Fourni avec le changeur de CD/MD
In dotazione con il cambia CD/MD
Geleverd met de CD/MD-wisselaar
Supplied with XA-C30
Mit dem XA-C30 geliefert
Fourni avec le XA-C30
In dotazione con il modello XA-C30
Geleverd met de XA-C30
BUS AUDIO IN
AUDIO OUT FRONT
REMOTE IN
AUDIO OUT REAR
BUS CONTROL IN
from car aerial*1
von Autoantenne*1
de l'antenne de la voiture*1
dall'antenna dell'auto*1
van een auto-antenne*1
Fuse (10 A)
Sicherung (10 A)
Fusible (10 A)
Fusibile (10 A)
Zekering (10 A)
Max. supply current 0.3 A
max. Versorgungsstrom 0,3 A
Courant max. fourni 0,3 A
Alimentazione massima fornita 0,3 A
Max. voedingsstroom 0,3 A
AMP REM
Blue/white striped
Blau-weiß gestreift
Rayé bleu/blanc
A strisce blu e bianche
Blauw/wit gestreept
ATT
Light blue
Hellblau
Bleu ciel
Azzurro
Hemelsblauw
See "Power Connection diagram" on the reverse side for details.
Näheres dazu finden Sie im "Stromanschlußdiagramm". Blättern Sie dazu bitte um.
Voir le "Schéma de connexion d'alimentation" au verso pour plus de détails.
Per ulteriori informazioni, vedere "Diagramma dei collegamenti di alimentazione" che si trova sul retro.
Zie "Voedingsaansluitschema" op de achterkant voor meer details.
from the car's power connector
vom Stromanschluß des Fahrzeugs
du connecteur d'alimentation de la voiture
dal connettore di alimentazione dell'auto
van de autovoedingsstekker
from the car's speaker connector
vom Lautsprecheranschluß des Fahrzeugs
du connecteur de haut-parleur de la voiture
dal connettore del diffusore dell'auto
van de autoluidsprekerstekker
Positions 1, 2, 3 and 6 do not have pins.
An Position 1, 2, 3 und 6 befinden sich keine Stifte.
Les positions 1, 2, 3 et 6 ne comportent pas de broches.
Le posizioni 1, 2, 3 e 6 non hanno piedini.
De posities 1, 2, 3 en 6 hebben geen pins.
Negative polarity positions 2, 4, 6, and 8 have striped cords.
An den negativ gepolten Positionen (2, 4, 6 und 8) befinden sich gestreifte Adern.
Les positions de polarité négative 2, 4, 6 et 8 sont dotées de cordons rayés.
Le posizioni a polarità negativa 2, 4, 6 e 8 hanno cavi rigati.
De negatieve posities 2, 4, 6 en 8 hebben gestreepte kabels.

4	Yellow Gelb Jaune Giallo Geel	continuous power supply permanente Stromversorgung alimentation continue alimentazione continua continu voeding	7	Red Rot Rouge Rosso Rood	switched power supply geschaltete Stromversorgung alimentation commutée alimentazione commutata geschakelde voeding
5	Blue Blau Bleu Blu Blauw	power aerial control Motorantenne antenne électrique comando dell'antenna elettrica automatische antenne	8	Black Schwarz Noir Nero Zwart	earth Masse masse terra aarding

1	Purple Violett Mauve Viola Paars	+	Speaker, Rear, Right Lautsprecher hinten rechts haut-parleur, arrière, droit Diffusore, posteriore, destro Luidspreker, achter, rechts	5	White Weiß Blanc Bianco Wit	+	Speaker, Front, Left Lautsprecher vorne links haut-parleur, avant, gauche Diffusore, anteriore, sinistro Luidspreker, voor, links
2		–	Speaker, Rear, Right Lautsprecher hinten rechts haut-parleur, arrière, droit Diffusore, posteriore, destro Luidspreker, achter, rechts	6		–	Speaker, Front, Left Lautsprecher vorne links haut-parleur, avant, gauche Diffusore, anteriore, sinistro Luidspreker, voor, links
3	Grey Grau Gris Grigio Grijs	+	Speaker, Front, Right Lautsprecher vorne rechts haut-parleur, avant, droit Diffusore, anteriore, destro Luidspreker, voor, rechts	7	Green Grün Vert Verde Groen	+	Speaker, Rear, Left Lautsprecher hinten links haut-parleur, arrière, gauche Diffusore, posteriore, sinistro Luidspreker, achter, links
4		–	Speaker, Front, Right Lautsprecher vorne rechts haut-parleur, avant, droit Diffusore, anteriore, destro Luidspreker, voor, rechts	8		–	Speaker, Rear, Left Lautsprecher hinten links haut-parleur, arrière, gauche Diffusore, posteriore, sinistro Luidspreker, achter, links

*1 **Note for the aerial connecting***
If your car aerial is an ISO (International Organisation for Standardisation) type, use the supplied adaptor Ⓔ to connect it.
First connect the car aerial to the supplied adaptor, then connect it to the aerial jack of the master unit.
*2 **Insert with the cord upwards***
*3 **RCA pin cord (not supplied)***

*1 **Hinweis zum Anschließen der Antenne***
Wenn Ihre Fahrzeugantenne der ISO-Norm (ISO = International Organization for Standardization - Internationale Normungsgemeinschaft) entspricht, schließen Sie sie mit Hilfe des mitgelieferten Adapters Ⓔ an.
Verbinden Sie zuerst die Fahrzeugantenne mit dem mitgelieferten Adapter, und verbinden Sie diesen dann mit der Antennenbuchse des Hauptgeräts.
*2 **Mit dem Kabel nach oben einsetzen!***
*3 **Cinchkabel (nicht mitgeliefert)***

*1 **Remarque sur le raccordement de l'antenne***
Si votre antenne de voiture est de type ISO (organisation internationale de normalisation), utilisez l'adaptateur fourni Ⓔ pour la raccorder.
Raccordez d'abord l'antenne de voiture à l'adaptateur fourni et, ensuite, à la prise d'antenne de l'appareil principal.
*2 **Insérez avec le câble vers le haut***
*3 **Cordon à broche RCA (non fourni)***

*1 **Nota per il collegamento dell'antenna***
Se la vostra antenna della macchina è di tipo ISO (International Organization Standardization), utilizzare l'adattatore Ⓔ in dotazione per collegarla.
Collegare prima l'antenna della macchina all'adattatore in dotazione, quindi collegarla alla presa dell'antenna dell'apparecchio principale.
*2 **Inserire con il cavo rivolto verso l'alto***
*3 **Cavo a piedini RCA (non in dotazione)***

*1 **Opmerking bij de antenne-aansluiting***
Indien uw wagen is uitgerust met een antenne van het type ISO (International Organisation for Standardization), moet u die aansluiten met behulp van de meegeleverde adaptor Ⓔ.
Sluit eerst de auto-antenne aan op de meegeleverde adaptor en vervolgens de antennestekker op het hoofdtoestel.
*2 **Inbrengen met het snoer naar boven***
*3 **Tulpstekersnoer (niet bijgeleverd)***

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Do not get the wires under a screw, or caught in moving parts (e.g. seat railing).
- Before making connections, turn the car ignition off to avoid short circuits.
- Connect the power connecting cord Ⓑ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Be sure to insulate any loose unconnected wires with electrical tape for safety.

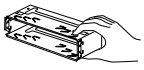
Notes on the power supply cord (yellow)

- When connecting this unit in combination with other stereo components, the connected car circuit's rating must be higher than the sum of each component's fuse.
- When no car circuits are rated high enough, connect the unit directly to the battery.

Parts list (1)

The numbers in the list are keyed to those in the instructions.

Caution
Handle the bracket ① carefully to avoid injuring your fingers.



Connection example (2)

***Notes* (2-A)**
- *Be sure to connect the earth cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

***Tip* (2-B-❺)**
For connecting two or more CD/MD changers, the source selector XA-C30 (optional) is necessary.

Connection diagram (3)

Ⓐ To AMP REMOTE IN of an optional power amplifier
This connection is only for amplifiers. Connecting any other system may damage the unit.

Ⓑ To the interface cable of a car telephone

Warning
If you have a power aerial without a relay box, connecting this unit with the power aerial connecting cord Ⓔ may damage the aerial.

Notes on the control leads
- *The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency), TA (Traffic Announcement) function.*
- *When your car has built-in FM/MW/LW aerial in the rear/side glass, connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.*
- *A power aerial without a relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.*
- *Do not connect the earth lead of this unit to the negative (–) terminal of the car.*
- *Do not attempt to connect the speakers in parallel.*
- *Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.*
- *To avoid malfunction, do not use the built-in speaker wires installed in your car if its unit end share a common negative (–) lead for the right and left speakers.*
- *Do not connect the unit's speaker cords to each other.*

Vorsicht

- Dieses Gerät ist ausschließlich für den Betrieb bei 12 V Gleichstrom (negative Erdung) bestimmt.
- Achten Sie darauf, daß die Kabel nicht unter einer Schraube oder zwischen beweglichen Teilen wie z. B. in einer Sitzschiene eingeklemmt werden.
- Schalten Sie, bevor Sie irgendwelche Anschlüsse vornehmen, die Zündung des Fahrzeugs aus, um Kurzschlüsse zu vermeiden.
- Verbinden Sie das Stromversorgungskabel Ⓑ mit dem Gerät und den Lautsprechern, bevor Sie es mit dem Hilfsstromanschluß verbinden.
- **Schließen Sie alle Erdungskabel an einen gemeinsamen Massepunkt an.**
- Aus Sicherheitsgründen müssen alle losen, nicht angeschlossenen Drähte mit Isolierband absolviert werden.

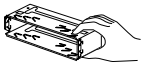
Hinweise zum Stromversorgungskabel (gelb)

- Wenn Sie dieses Gerät zusammen mit anderen Stereokomponenten anschließen, muß der Autostromkreis, an den die Geräte angeschlossen sind, eine höhere Leistung aufweisen als die Summe der Sicherungen der einzelnen Komponenten.
- Wenn kein Autostromkreis eine so hohe Leistung aufweist, schließen Sie das Gerät direkt an die Batterie an.

Teileliste (1)

Die Nummern in der Liste sind dieselben wie im Erläuterungstext.

Vorsicht
Seien Sie beim Umgang mit der Halterung ① vorsichtig, damit Sie sich nicht die Hände verletzen.



Anschlußbeispiel (2)

***Hinweise* (2-A)**
- *Schließen Sie unbedingt zuerst das Massekabel an, bevor Sie den Verstärker anschließen.*
- *Wenn Sie einen gesondert erhältlichen Endverstärker anschließen und den integrierten Verstärker nicht benutzen, wird der Signalton deaktiviert.*

***Tip* (2-B-❺)**
Zum Anschließen von zwei oder mehr CD/MD-Wechslern wird der gesondert erhältliche Signalquellenwähler XA-C30 benötigt.

Anschlußdiagramm (3)

Ⓐ An AMP REMOTE IN des gesondert erhältlichen Endverstärkers
Dieser Anschluß ist ausschließlich für Verstärker gedacht. Schließen Sie nichts anderes daran an. Andernfalls kann das Gerät beschädigt werden.

Ⓑ An Schnittstellenkabel eines Autotelefons

Warnung
Wenn Sie eine Motorantenne ohne Relaiskästchen verwenden, kann durch Anschließen dieses Geräts mit dem mitgelieferten Stromversorgungskabel Ⓔ die Antenne beschädigt werden.

Hinweise zu den Steuerleitungen
- *Die Motorantennen-Steuerleitung (blau) liefert + 12 V Gleichstrom, wenn Sie den Tuner einschalten oder die AF- (Alternativfrequenzsuche) oder die TA-Funktion (Verkehrsdurchsagen) aktivieren.*
- *Wenn das Fahrzeug mit einer in der Heck-/Seitenfensterscheibe integrierten FM (UKW)/MW/LW-Antenne ausgestattet ist, schließen Sie die Motorantennen-Steuerleitung (blau) oder die Zubehörstromversorgungsleitung (rot) an den Stromversorgungsanschluß des vorhandenen Antennenverstärkers an. Näheres dazu erfahren Sie bei Ihrem Händler.*
- *Es kann nur eine Motorantenne mit Relaiskästchen angeschlossen werden.*

Stromversorgung des Speichers
Wenn das gelbe Stromversorgungskabel angeschlossen ist, wird der Speicher stets (auch bei ausgeschalteter Zündung) mit Strom versorgt.

Hinweise zum Lautsprecheranschluß
- *Schalten Sie das Gerät aus, bevor Sie die Lautsprecher anschließen.*
- *Verwenden Sie Lautsprecher mit einer Impedanz zwischen 4 und 8 Ohm und ausreichender Belastbarkeit. Ansonsten können die Lautsprecher beschädigt werden.*
- *Verbinden Sie die Lautsprecheranschlüsse nicht mit dem Wagenchassis, und verbinden Sie auch nicht die Anschlüsse des rechten mit denen des linken Lautsprechers.*
- *Verbinden Sie die Masseleitung dieses Geräts nicht mit dem negativen (–) Lautsprecheranschluß.*
- *Versuchen Sie nicht, Lautsprecher parallel anzuschließen.*
- *An die Lautsprecheranschlüsse dieses Geräts dürfen nur Passivlautsprecher angeschlossen werden. Schließen Sie keine Aktivlautsprecher (Lautsprecher mit eingebauten Verstärkern) an, da diese sonst beschädigt werden können.*
- *Um Fehlfunktionen zu vermeiden, verwenden Sie nicht die im Fahrzeug installierten, integrierten Lautsprecherleitungen, wenn am Ende eine gemeinsame negative (–) Leitung für den rechten und den linken Lautsprecher verwendet wird.*
- *Verbinden Sie nicht die Lautsprecherkabel des Geräts miteinander.*

Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Evitez de fixer des vis sur les câbles ou de coincer ceux-ci dans des pièces mobiles (par exemple, armature de siège).
- Avant d'effectuer des raccordements, éteignez le moteur pour éviter les courts-circuits.
- Branchez le cordon d'alimention Ⓑ sur l'appareil et les haut-parleurs avant de le brancher sur le connecteur d'alimentation auxiliaire.
- **Rassemblez tous les fils de terre en un point de masse commun.**
- Veillez à isoler avec du chatterton tout fil lâche non raccordé.

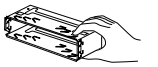
Remarques sur le cordon d'alimentation (jaune)

- Lorsque cet appareil est raccordé à d'autres éléments stéréo, la valeur nominale des circuits de la voiture raccordée doit être supérieure à la somme des fusibles de chaque élément.
- Si aucun circuit de la voiture n'est assez puissant, raccordez directement l'appareil à la batterie.

Liste des composants (1)

Les numéros de l'illustration correspondent à ceux des instructions.

Attention
Manipulez précautionneusement le support ① pour éviter de vous blesser aux doigts.



Exemple de raccordement (2)

***Remarques* (2-A)**
- *Raccordez d'abord le fil de masse avant de raccorder l'amplificateur.*
- *Si vous raccordez un amplificateur de puissance indépendant et que vous n'utilisez pas l'amplificateur intégré, le bip sonore est désactivé.*

***Conseil* (2-B-❺)**
Dans le cas du raccordement de deux changeurs de CD/MD ou plus, le sélecteur de source XA-C30 (en option) est indispensable.

Schéma de raccordement (3)

Ⓐ Au niveau du AMP REMOTE IN d'un amplificateur de puissance facultatif
Ce raccordement existe seulement pour les amplificateurs. Le raccordement à tout autre système peut endommager l'appareil.

Ⓑ Vers le cordon de liaison d'un téléphone de voiture

Avertissement
Si vous disposez d'une antenne électrique sans boîtier de relais, le branchement de cet appareil au moyen du cordon d'alimentation fourni Ⓔ risque d'endommager l'antenne.

Remarques sur les fils de contrôle
- *Le fil de commande (bleu) de l'antenne électrique assure une alimentation de +12 V CC lorsque vous mettez le syntoniseur sous tension ou lorsque vous activez la fonction AF (fréquence secondaire) ou TA (informations routières).*
- *Lorsque votre voiture est équipée d'une antenne FM/MW/LW intégrée dans la vitre arrière/latérale, raccordez la sortie de commande de l'antenne (bleu) ou l'entrée d'alimentation des accessoires (rouge) au bornier de l'amplificateur d'antenne existant. Pour plus de détails, consultez votre revendeur.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Raccordement pour la conservation de la mémoire
Lorsque le fil d'entrée d'alimentation jaune est raccordé, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur le raccordement des haut-parleurs
- *Avant de raccorder les haut-parleurs, mettez l'appareil hors tension.*
- *Utilisez des haut-parleurs ayant une impédance de 4 à 8 ohms avec une capacité de manipulation adéquate pour éviter de les endommager.*
- *Ne raccordez pas les bornes du système de haut-parleurs au châssis de la voiture et ne raccordez pas les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne raccordez pas le câble de masse de cet appareil à la borne négative (–) de l'enceinte.*
- *N'essayez pas de raccorder les haut-parleurs en parallèle.*
- *Raccordez uniquement des haut-parleurs passifs. Le raccordement de haut-parleurs actifs (avec amplificateurs intégrés) aux bornes des haut-parleurs peut endommager l'appareil.*
- *Pour éviter tout dysfonctionnement, n'utilisez pas les fils des haut-parleurs intégrés installés dans votre voiture si l'appareil partage un fil négatif commun (–) pour les haut-parleurs droit et gauche.*
- *Ne raccordez pas entre eux les cordons des haut-parleurs de l'appareil.*

Attenzione

- Questo apparecchio è stato progettato per l'uso solo a 12 V CC con massa negativa.
- Evitare che i cavi rimangano bloccati da una vite o incastrati nelle parti mobili (ad esempio nelle guide scorrevoli dei sedili).
- Prima di effettuare i collegamenti, spegnere il motore dell'automobile onde evitare di causare cortocircuiti.
- Collegare il cavo di collegamento dell'alimentazione Ⓑ all'apparecchio e ai diffusori prima di collegarlo al connettore di alimentazione ausiliare.
- **Portare tutti i cavi di massa a un punto di massa comune.**
- Per sicurezza, assicurarsi di isolare qualsiasi cavo non collegato mediante apposito nastro.

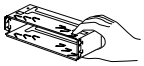
Note sul cavo di alimentazione (giallo)

- Se questo apparecchio viene collegato con altri componenti stereo, la potenza nominale dei circuiti dell'automobile deve essere superiore a quella prodotta dalla somma dei fusibili di ciascun componente.
- Se la potenza nominale dei circuiti dell'automobile non è sufficiente, collegare l'apparecchio direttamente alla batteria.

Elenco dei componenti (1)

I numeri nella lista corrispondono a quelli riportati nelle istruzioni.

Attenzione
Maneggiare la staffa ① con cautela per evitare di ferirsi le mani.



Esempi di collegamento (2)

***Note* (2-A)**
- *Assicurarsi di collegare il cavo di terra prima di collegare l'apparecchio all'amplificatore.*
- *Se si collega un amplificatore di potenza opzionale e non si utilizza l'amplificatore incorporato, il segnale acustico verrà disattivato.*

***Suggerimento* (2-B-❺)**
Per collegare due o più cambia CD/MD, si deve utilizzare il selettore di fonte XA-C30 (opzionale).

Schema di collegamento (3)

Ⓐ A AMP REMOTE IN di un amplificatore di potenza opzionale
Questo collegamento è riservato esclusivamente agli amplificatori. Non collegare un tipo di sistema diverso onde evitare di causare danni all'apparecchio.

Ⓑ Al cavo interfaccia di un telefono per auto

Avvertenza
Quando si collega l'apparecchio con il cavo di alimentazione in dotazione Ⓔ, si potrebbe danneggiare l'antenna elettrica se questa non ha la scatola di relè.

Note sui cavi di controllo
- *Il cavo di controllo dell'antenna elettrica (blu) fornisce corrente continua +12 V CC quando si accende il sintonizzatore o quando si attiva la funzione AF (frequenza alternativa) o TA (notiziario sul traffico).*
- *Se l'automobile è dotata di antenna FM/MW/LW incorporata nel vetro posteriore/laterale, collegare il cavo (blu) di controllo dell'antenna elettrica o il cavo (rosso) di ingresso dell'alimentazione opzionale al terminale di alimentazione del preamplificatore dell'antenna esistente. Per ulteriori informazioni, consultare il proprio fornitore.*
- *Non è possibile usare un'antenna elettrica senza scatola a relè con questo apparecchio.*

Collegamento per la conservazione della memoria
Quando il cavo di ingresso alimentazione giallo è collegato, viene sempre fornita alimentazione al circuito di memoria anche quando la chiavetta a accensione è spenta.

Note sul collegamento dei diffusori
- *Prima di collegare i diffusori spegnere l'apparecchio.*
- *Usare diffusori di impedenza compresa tra 4 e 8 ohm e con capacità di potenza adeguata, altrimenti i diffusori potrebbero venir danneggiati.*
- *Non collegare i terminali dei sistema diffusori al telaio dell'auto e non collegare i terminali del diffusore destro a quelli del diffusore sinistro.*
- *Non collegare il cavo di terra di questo apparecchio al terminale negativo (–) del diffusore.*
- *Non collegare i diffusori in parallelo.*
- *Non collegare alcun diffusore attivo (con amplificatore incorporato) ai terminali dei diffusori dell'apparecchio perché si potrebbero danneggiare i diffusori attivi. Assicurarsi di collegare diffusori passivi a questi terminali.*
- *Per evitare problemi di funzionamento, non utilizzare i cavi dei diffusori incorporati installati nell'automobile se il terminale dell'apparecchio condivide un cavo comune negativo (–) per i diffusori destro e sinistro.*
- *Non collegare fra loro i cavi dei diffusori dell'apparecchio.*

Let op!

- Dit apparaat is ontworpen voor gebruik op gelijkstroom van een 12 Volts auto-accu, negatief geaard.
- Zorg ervoor dat de draden niet onder een schroef of tussen bewegende onderdelen (b.v. zetelrail) terechtkomen.
- Alvorens aansluitingen te verrichten moet u het contact afzetten om kortsluiting te vermijden.
- Sluit het netsnoer Ⓑ aan op het toestel en de luidsprekers vooraleer u het op de hulpvoedingsaansluiting aansluit.
- **Sluit alle aarddraden op een gemeenschappelijk aardpunt aan.**
- Voorzie niet aangesloten draden om veiligheidsredenen altijd van isolatietape.

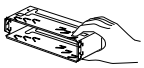
Opmerkingen bij de voedingskabel (geel)

- Wanneer u dit toestel aansluit samen met andere componenten, moet het vermogen van de aangesloten autostroomkring groter zijn dan de som van de zekeringen van elke component afzonderlijk.
- Wanneer het vermogen ontoereikend is, moet u het toestel rechtstreeks aansluiten op de batterij.

Onderdelenlijst (1)

De nummers in de afbeelding verwijzen naar die in de montage-aanwijzingen.

Voorzichtig
Houd de beugel ① voorzichtig vast zodat u uw vingers niet verwondt.



Voorbeeldaansluitingen (2)

***Opmerkingen* (2-A)**
- *Sluit eerst de massakabel aan alvorens de versterker aan te sluiten.*
- *Als u een los verkrijgbare vermogensversterker aansluit en de ingebouwde versterker niet gebruikt, is de pieptoon uitgeschakeld.*

***Tip* (2-B-❺)**
Om twee of meer CD/MD-wisselaars aan te sluiten, hebt u de geluidsbronkiezer XA-C30 (optioneel) nodig.

Aansluitschema (3)

Ⓐ Naar AMP REMOTE IN van een los verkrijgbare vermogensversterker
Deze aansluiting is alleen bedoeld voor versterkers. Door een ander systeem aan te sluiten kan het toestel worden beschadigd.

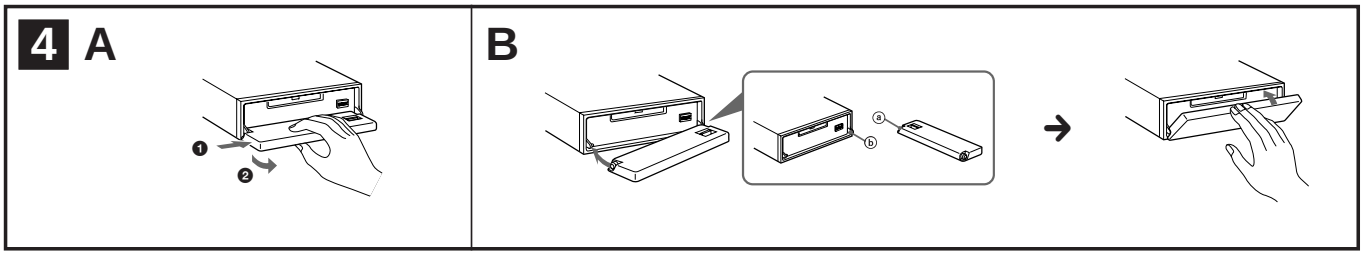
Ⓑ Naar het interface-snoer van een autotelefoon

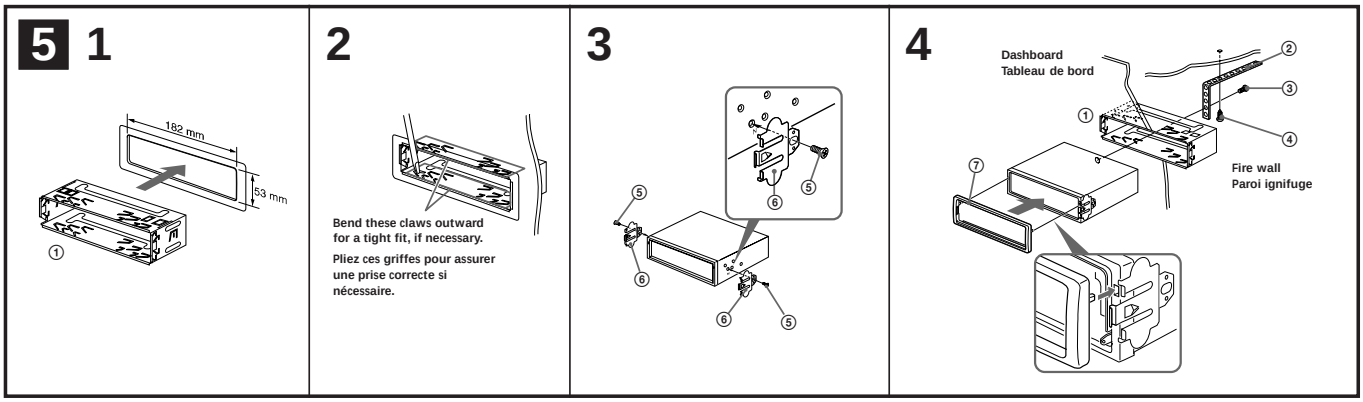
Opgelet
Indien u een elektrische antenne heeft zonder relaiskast, kan het aansluiten van deze eenheid met het bijgeleverde netsnoer Ⓔ de antenne beschadigen.

Opmerking betreffende de aansluitsnoeren
- *De voedingskabel (blauw) van de elektrisch bediende antenne levert +12V gelijkstroom wanneer u de tuner aanschakelt of de functie AF (Alternative Frequency) of TA (Traffic Announcement) activeert.*
- *Wanneer uw auto is uitgerust met een FM/MW/LW-antenne in de achterruit/voorruit, moet u de antennevoedingskabel (blauw) of de hulpvoedingskabel (rood) aansluiten op de voedingsingang van de bestaande antenneversterker. Raadpleeg uw dealer voor meer details.*
- *Met dit apparaat is het niet mogelijk een automatische antenne zonder relaishuis te gebruiken.*

Instandhouden van het geheugen
Zolang de gele stroomdraad is aangesloten, blijft de stroomvoorziening van het geheugen intact, ook wanneer het contact van de auto wordt uitgeschakeld.

Opmerkingen betreffende het aansluiten van de luidsprekers
- *Zorg dat het apparaat is uitgeschakeld, alvorens de luidsprekers aan te sluiten.*
- *Gebruik luidsprekers met een impedantie van 4 tot 8 Ohm en let op dat die het vermogen van de versterker kunnen verwerken. Als dit wordt verzuimd, kunnen de luidsprekers ernstig beschadigd raken.*
- *Verbind in geen geval de aansluitingen van de luidsprekers met het chassis van de auto en sluit de aansluitingen van de rechter en linker luidspreker niet op elkaar aan.*
- *Verbind de massakabel van dit toestel niet met de negatieve (–) aansluiting van de luidspreker.*
- *Probeer nooit de luidsprekers parallel aan te sluiten.*
- *Sluit geen actieve luidsprekers (met ingebouwde versterkers) aan op de luidpreker-aansluiting van dit apparaat. Dit zal leiden tot beschadiging van de actieve luidsprekers. Sluit dus altijd uitsluitend luidsprekers zonder ingebouwde versterker aan.*
- *Om defecten te vermijden mag u de bestaande luidsprekerbedrading in uw auto niet gebruiken wanneer er een gemeenschappelijke negatieve (–) draad is voor de rechter en linker luidsprekers.*
- *Verbind de luidsprekerdraden niet met elkaar.*





Precautions

- Choose the installation location carefully so that the unit will not interfere with normal driving operations.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

How to detach and attach the front panel (4)

Before installing the unit, detach the front panel.

4-A To detach

Before detaching the front panel, be sure to press (OFF). Press (OPEN), then slide the front panel to the right side, and pull out the left side.

4-B To attach

Place the hole ⓐ in the front panel onto the spindle ⓑ on the unit as illustrated, then push the left side in.

Mounting example (5)

Installation in the dashboard

Mounting the unit in a Japanese car (6)

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

Note

To prevent malfunction, install only with the supplied screws ⓢ.

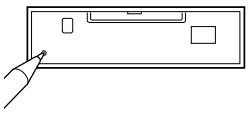
Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turning off the engine.

When you press (OFF) only momentarily, the clock display does not turn off and this causes battery wear.

RESET button

When the installation and connections are completed, be sure to press the RESET button with a ball-point pen, etc.



Précautions

- Choisissez soigneusement l'emplacement d'installation pour que l'appareil ne gêne pas le chauffeur pendant la conduite.
- Evitez d'installer l'appareil dans un endroit exposé à la poussière, à la saleté, à des vibrations excessives ou à des températures élevées comme en plein soleil ou à proximité de conduits de chauffage.
- Pour garantir un montage sûr, n'utilisez que le matériel fourni.

Réglage de l'angle de montage

Ajustez l'inclinaison à un angle inférieur à 20°.

Retrait et pose de la façade (4)

Avant d'installer l'appareil, retirez la façade.

4-A Pour retirer

Avant de retirer la façade, n'oubliez pas d'appuyer d'abord sur (OFF). Appuyez sur (OPEN), puis faites glisser la façade vers la droite et retirez-la par la gauche.

4-B Pour poser

Fixez la partie ⓐ de la façade sur la partie ⓑ de l'appareil, comme indiqué sur l'illustration, puis appuyez sur le côté gauche jusqu'au déclic.

Exemple de montage (5)

Installation dans le tableau de bord

Installation de l'appareil dans une voiture japonaise (6)

Cet appareil ne peut pas être installé dans certaines voitures japonaises. Consultez, dans ce cas, votre revendeur Sony.

Remarque

Pour éviter tout dysfonctionnement, utilisez uniquement les vis ⓢ pour le montage.

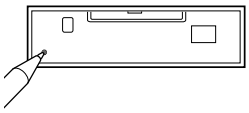
Avertissement en cas d'installation dans une voiture dont le contact ne comporte pas de position ACC (accessoires)

N'oubliez pas d'appuyer sur le bouton (OFF) de l'appareil pendant deux secondes après avoir coupé le moteur de façon à désactiver l'affichage de l'horloge.

Si vous appuyez brièvement sur (OFF), l'affichage de l'horloge n'est pas désactivé, ce qui provoque une usure de la batterie.

Touche RESET

Quand l'installation et les raccordements sont terminés, appuyez sur la touche RESET avec un stylo à bille, etc.



(AEP, UK models)

Power connection diagram

Auxiliary power connector may vary depending on the car. Check your car's auxiliary power connector diagram to make sure the connections match correctly. There are three basic types (illustrated below). You may need to switch the positions of the red and yellow leads in the car stereo's power connecting cord.
After matching the connections and switched power supply leads correctly, connect the unit to the car's power supply. If you have any questions and problems connecting your unit that are not covered in this manual, please consult the car dealer.

Diagramma dei collegamenti di alimentazione

Il connettore di alimentazione ausiliaria può variare a seconda della macchina.
Controllare il diagramma del connettore di alimentazione ausiliaria della macchina per essere sicuri che le connessioni corrispondano correttamente. Vi sono tre tipi di base (illustrazione sotto). Potrà essere necessario cambiare le posizioni dei conduttori rosso e giallo nel cavo di alimentazione dello stereo della macchina. Dopo aver fatto corrispondere le connessioni e i cavi di alimentazione commutata, collegare l'apparecchio all'alimentazione della macchina. Se si hanno domande o se sorgono problemi che non sono stati trattati nel manuale nel collegare l'apparecchio, contattare l'autoconcessionario.

Stromanschlußdiagramm

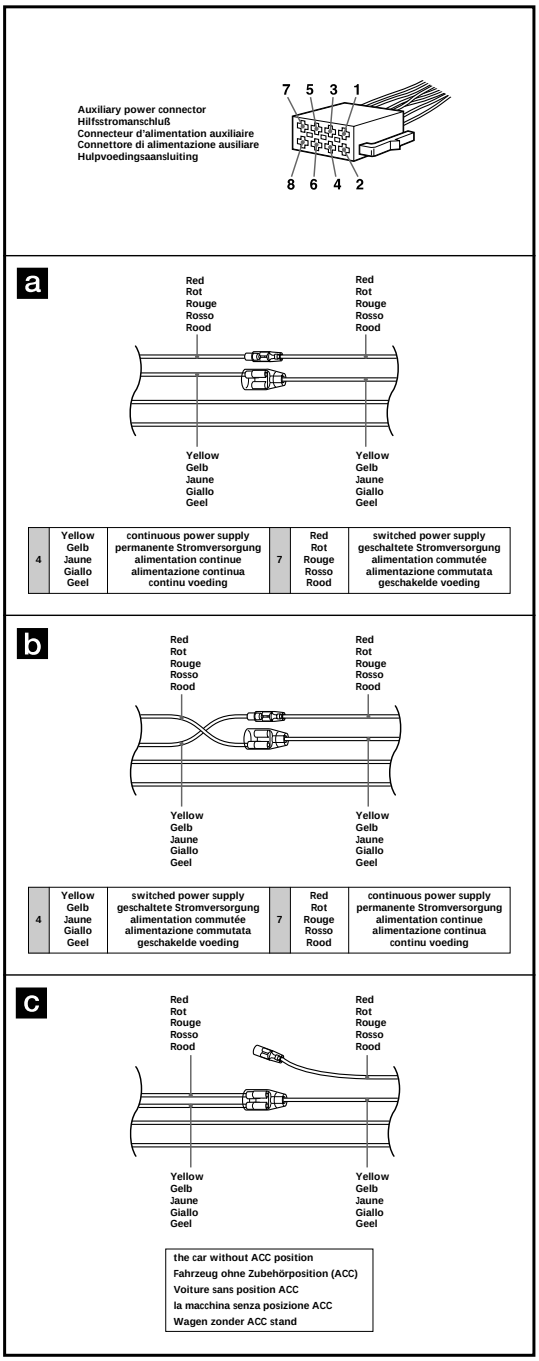
Der Hilfsstromanschluß kann je nach Fahrzeugtyp unterschiedlich sein. Sehen Sie im Hilfsstromanschlußdiagramm für Ihr Fahrzeug nach, wie die Verbindung ordnungsgemäß vorgenommen werden muß. Es gibt, wie unten abgebildet, drei grundlegende Typen.
Sie müssen möglicherweise die rote und gelbe Leitung des Stromversorgungskabels der Autostereoanlage vertauschen.
Stellen Sie die Anschlüsse her, schließen Sie die geschalteten Stromversorgungsleitungen richtig an, und verbinden Sie dann das Gerät mit der Stromversorgung Ihres Fahrzeugs. Wenn beim Anschließen des Geräts Fragen oder Probleme auftreten, die in dieser Bedienungsanleitung nicht erläutert werden, wenden Sie sich bitte an den Autohändler.

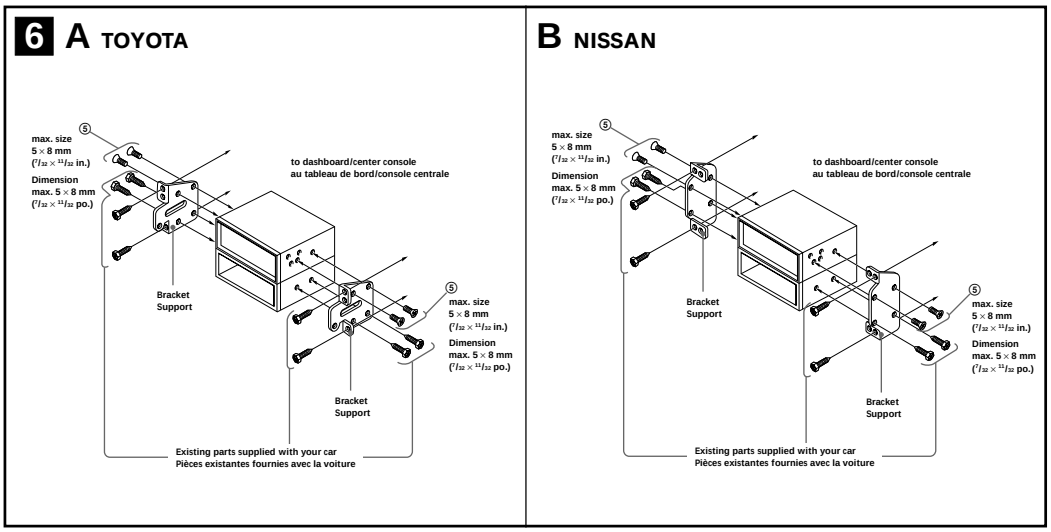
Voedingsaansluitschema

De hulpvoedingsaansluiting kan verschillen naargelang van de wagen. Controleer het voedingsaansluitschema dat bij dit toestel wordt geleverd om te zien of de aansluitingen kloppen. Er zijn drie basistypes (zie illustratie hieronder).
Als de aansluitingen en geschakelde voedingskabels kloppen, sluit u het toestel aan op de voeding van de wagen. Indien u nog vragen of problemen hebt in verband met het aansluiten van het toestel die niet in deze handleiding vermeld staan, raadpleeg dan de autodealer.

Schéma de connexion d'alimentation

Le connecteur d'alimentation auxiliaire peut varier suivant le type de voiture. Vérifiez le schéma du connecteur d'alimentation auxiliaire de votre voiture pour vous assurer que les connexions correspondent. Il en existe trois types de base (illustrés ci-dessous). Il se peut que vous deviez commuter la position du fil rouge et jaune du cordon d'alimentation de l'autoradio.
Après avoir établi les connexions et commuté correctement les fils d'alimentation, raccordez l'appareil à l'alimentation de la voiture. Si vous avez des questions ou des difficultés à propos de cet appareil qui ne sont pas abordées dans le présent mode d'emploi, consultez votre revendeur automobile.


Auxiliary power connector
Hilfsstromanschluß
Connecteur d'alimentation auxiliaire
Connettore di alimentazione ausiliare
Hulpvoedingsaansluiting
7 5 3 1
8 6 4 2
a
Red
Rot
Rouge
Rosso
Rood
Yellow
Gelb
Jaune
Giallo
Geel
4 Yellow Gelb Jaune Giallo Geel — continuous power supply permanente Stromversorgung alimentation continue alimentazione continua continu voeding
7 Red Rot Rouge Rosso Rood — switched power supply geschaltete Stromversorgung alimentation commutée alimentazione commutata geschakelde voeding
b
4 Yellow Gelb Jaune Giallo Geel — switched power supply geschaltete Stromversorgung alimentation commutée alimentazione commutata geschakelde voeding
7 Red Rot Rouge Rosso Rood — continuous power supply permanente Stromversorgung alimentation continue alimentazione continua continu voeding
c
the car without ACC position
Fahrzeug ohne Zubehörposition (ACC)
Voiture sans position ACC
la macchina senza posizione ACC
Wagen zonder ACC stand



SECTION 2
DISASSEMBLY

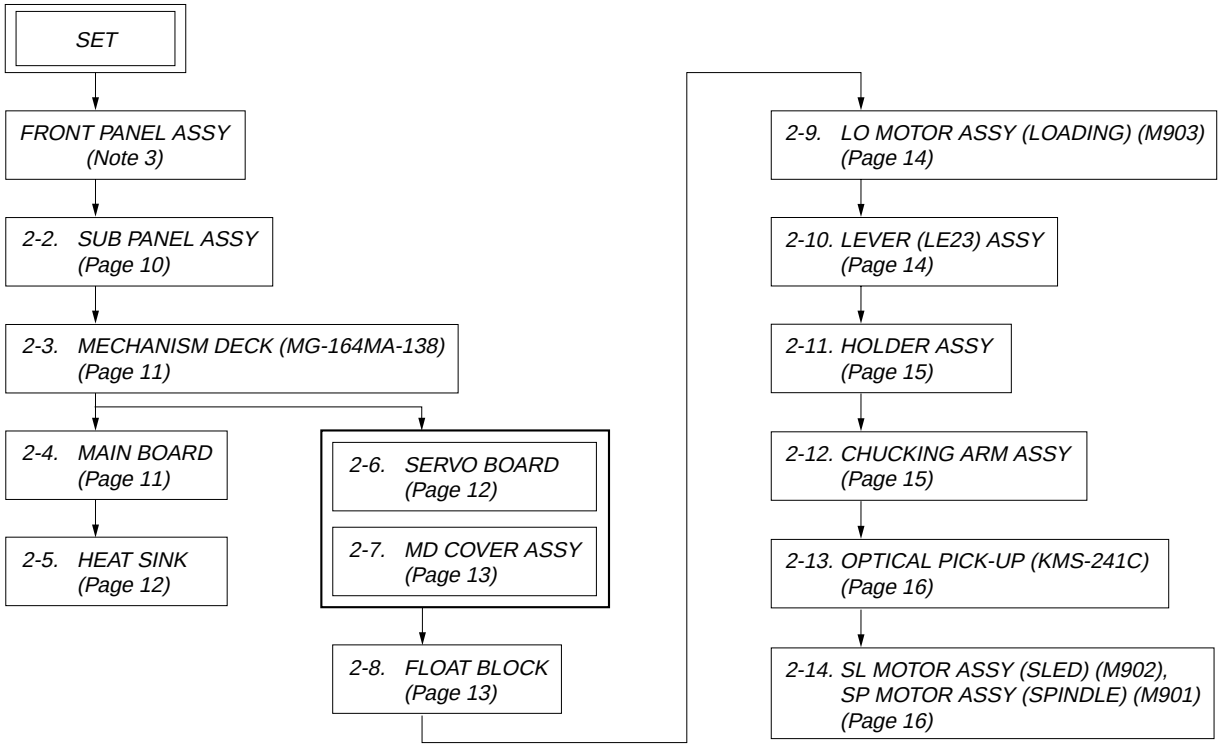
• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

Note 1: *The process described in ⊟ can be performed in any order.*

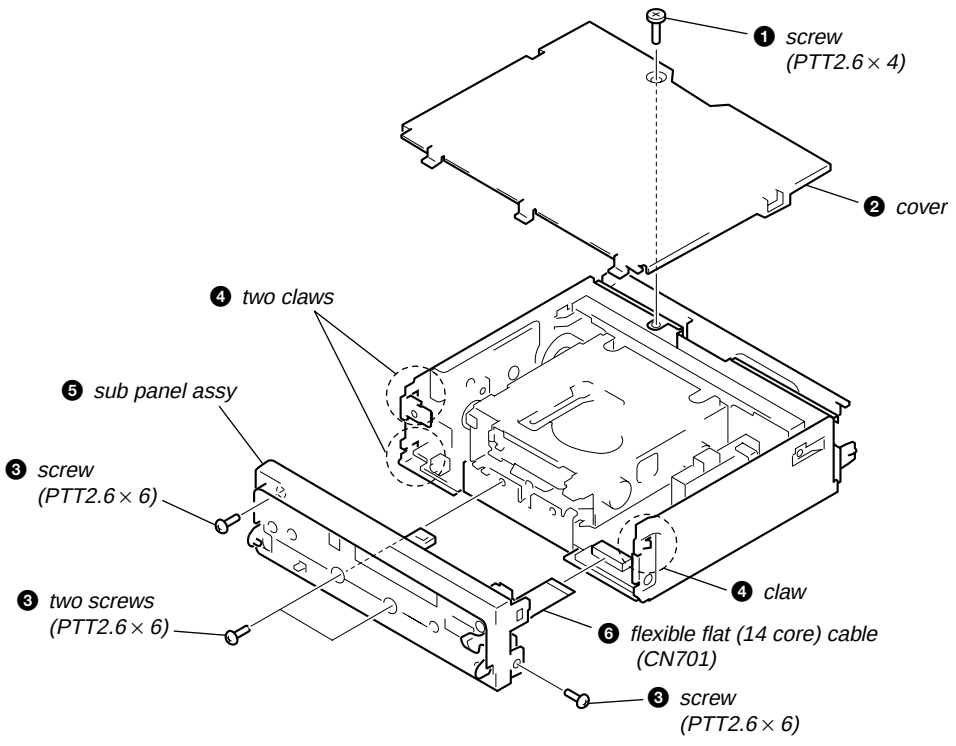
Note 2: *Without completing the process described in ⊟, the next process can not be performed.*

Note 3: *Illustration of disassembly is omitted.*

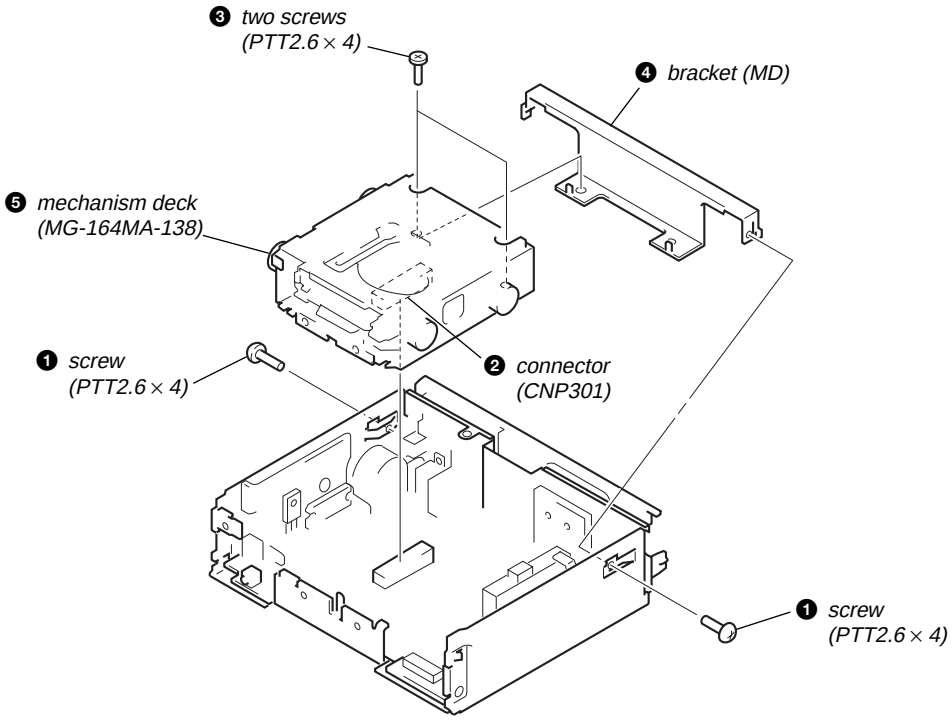

SET
FRONT PANEL ASSY (Note 3)
2-2. SUB PANEL ASSY (Page 10)
2-3. MECHANISM DECK (MG-164MA-138) (Page 11)
2-4. MAIN BOARD (Page 11)
2-5. HEAT SINK (Page 12)
2-6. SERVO BOARD (Page 12)
2-7. MD COVER ASSY (Page 13)
2-8. FLOAT BLOCK (Page 13)
2-9. LO MOTOR ASSY (LOADING) (M903) (Page 14)
2-10. LEVER (LE23) ASSY (Page 14)
2-11. HOLDER ASSY (Page 15)
2-12. CHUCKING ARM ASSY (Page 15)
2-13. OPTICAL PICK-UP (KMS-241C) (Page 16)
2-14. SL MOTOR ASSY (SLED) (M902), SP MOTOR ASSY (SPINDLE) (M901) (Page 16)

Note: Follow the disassembly procedure in the numerical order given.

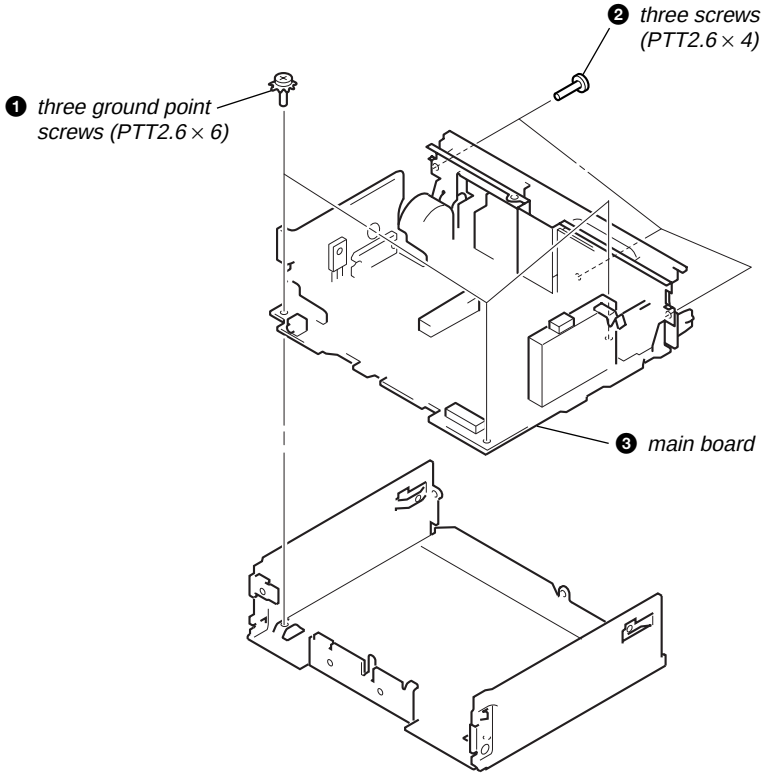
2-2. SUB PANEL ASSY


❶ screw (PTT2.6 × 4)
❷ cover
❹ two claws
❺ sub panel assy
❸ screw (PTT2.6 × 6)
❸ two screws (PTT2.6 × 6)
❹ claw
❻ flexible flat (14 core) cable (CN701)
❸ screw (PTT2.6 × 6)

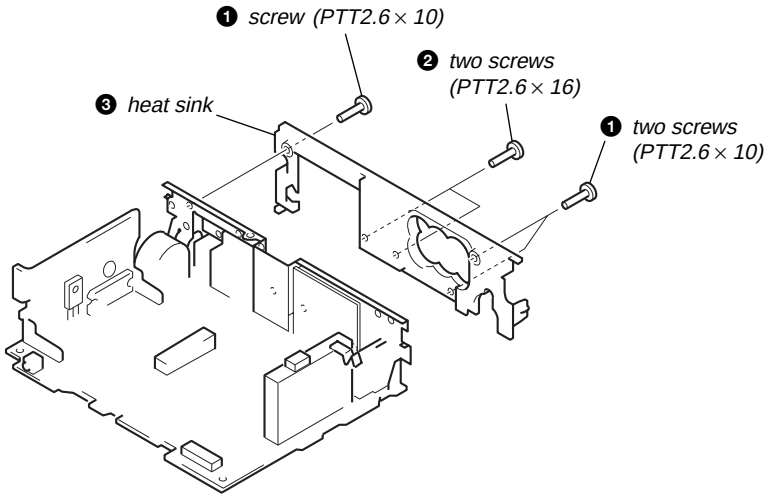
2-3. MECHANISM DECK (MG-164MA-138)



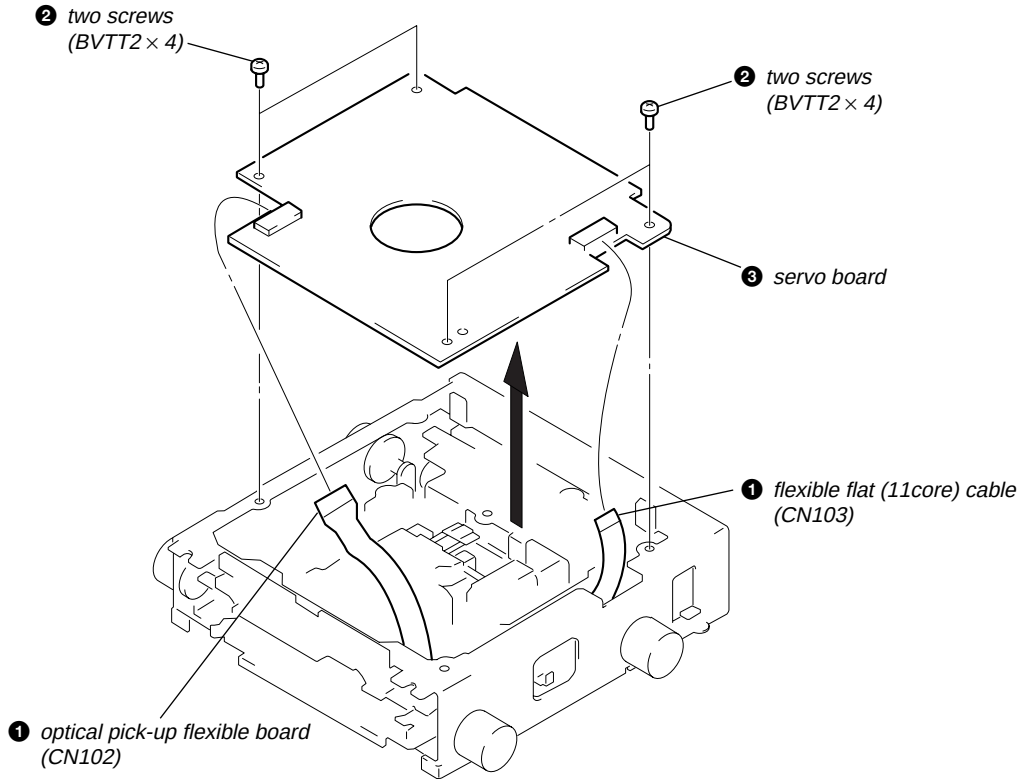
2-4. MAIN BOARD



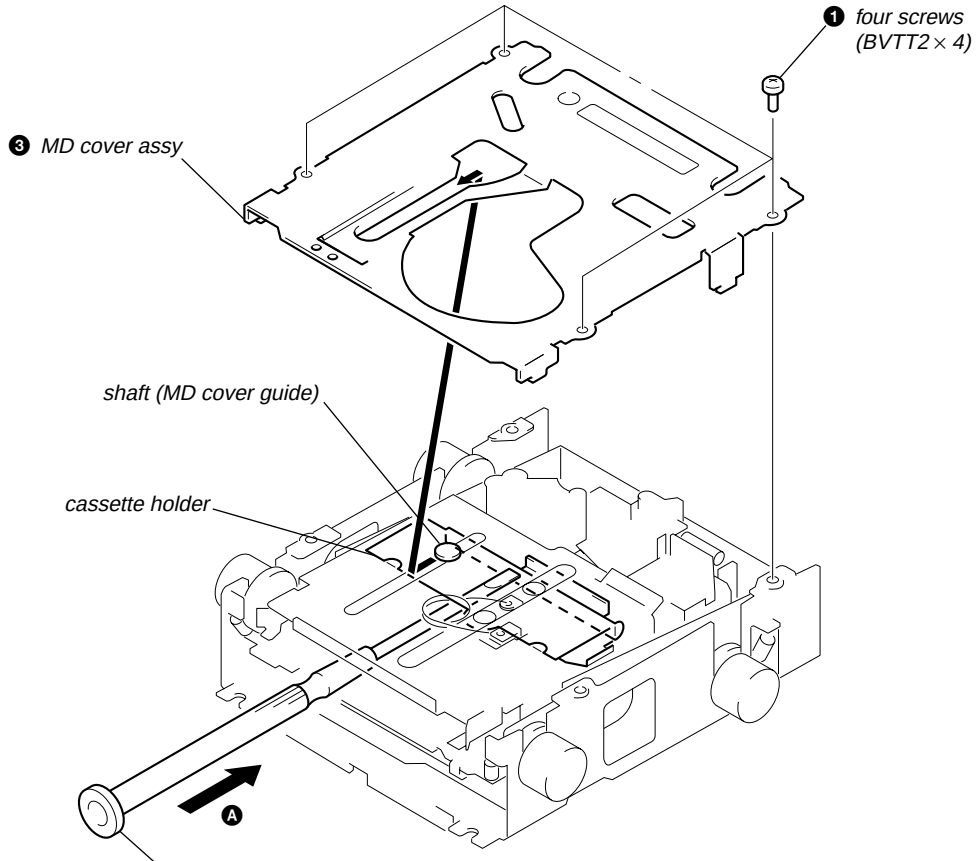
2-5. HEAT SINK



2-6. SERVO BOARD


❷ two screws (BVTT2 × 4)
❷ two screws (BVTT2 × 4)
❸ servo board
❶ flexible flat (11core) cable (CN103)
❶ optical pick-up flexible board (CN102)

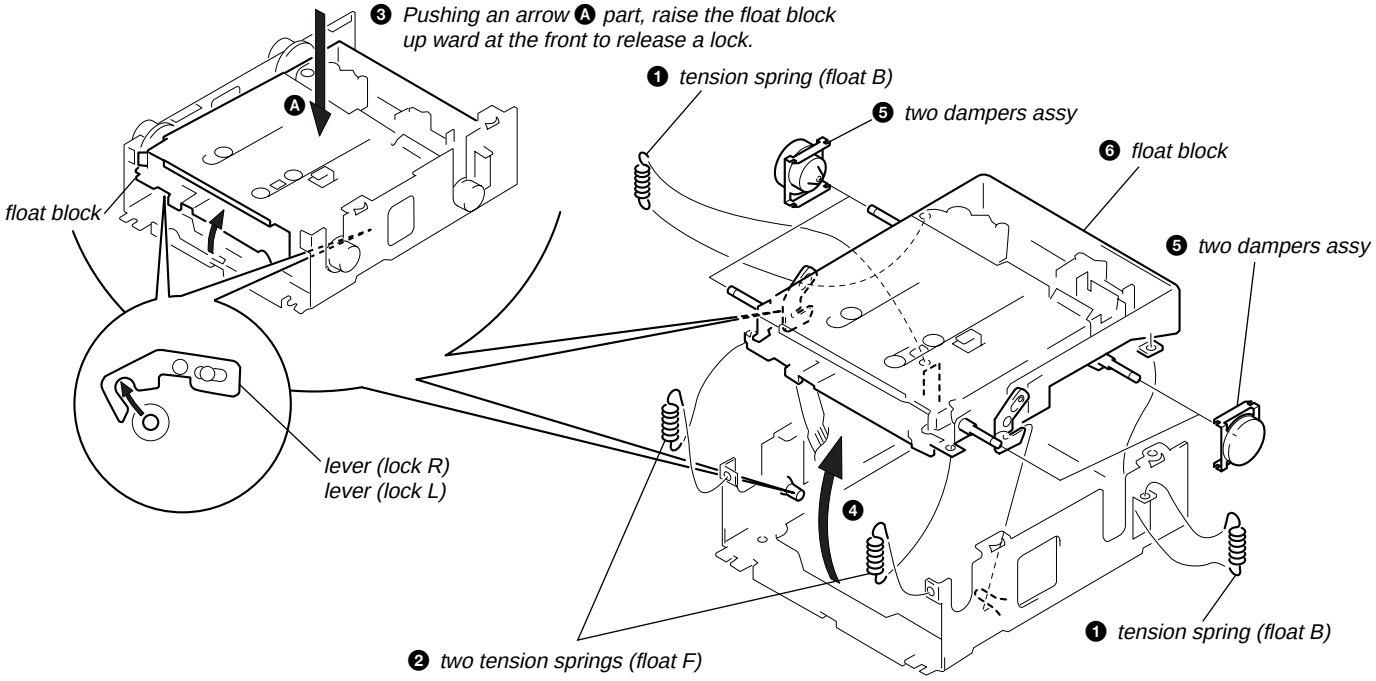
2-7. MD COVER ASSY



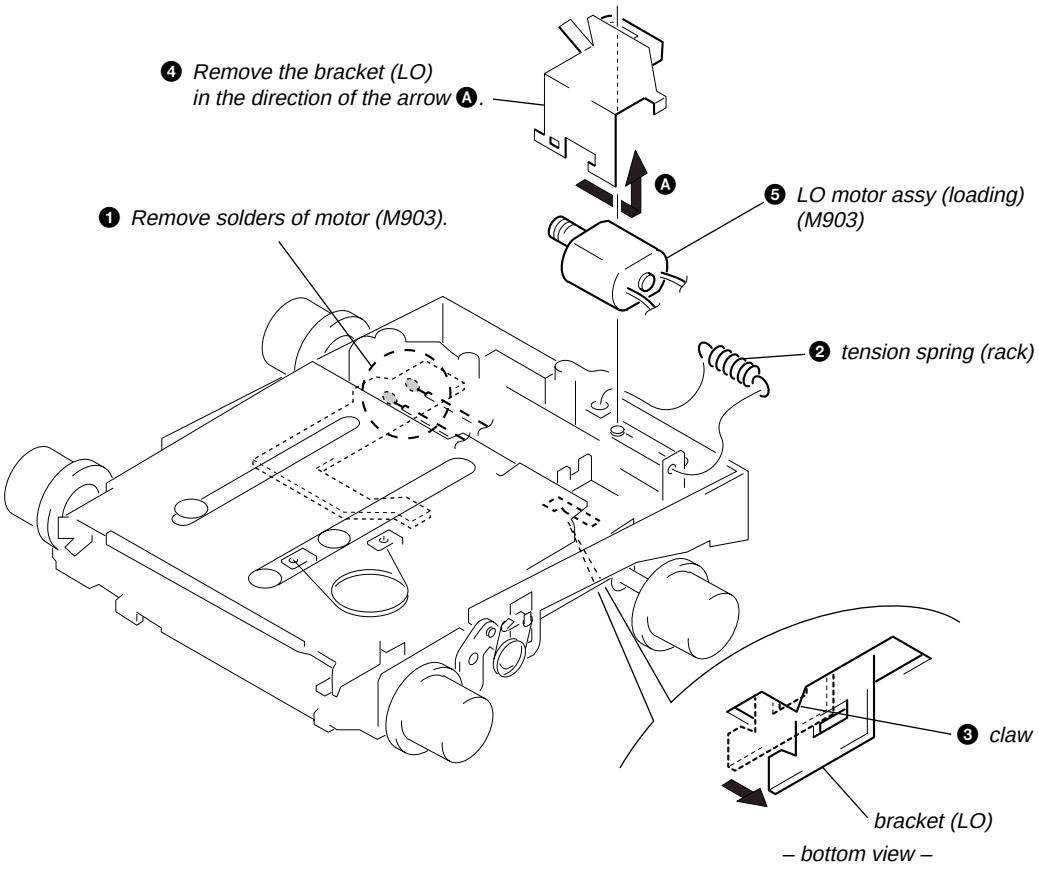
❷ Pushing the cassette holder in the direction of the arrow Ⓐ with a screwdriver, etc., disengage the shaft (MD cover guide) from the slot in the MD cover assy.

Note: Take care not to scratch the optiocal pick-up when pushing the cassette holder with a screwdriver. etc.

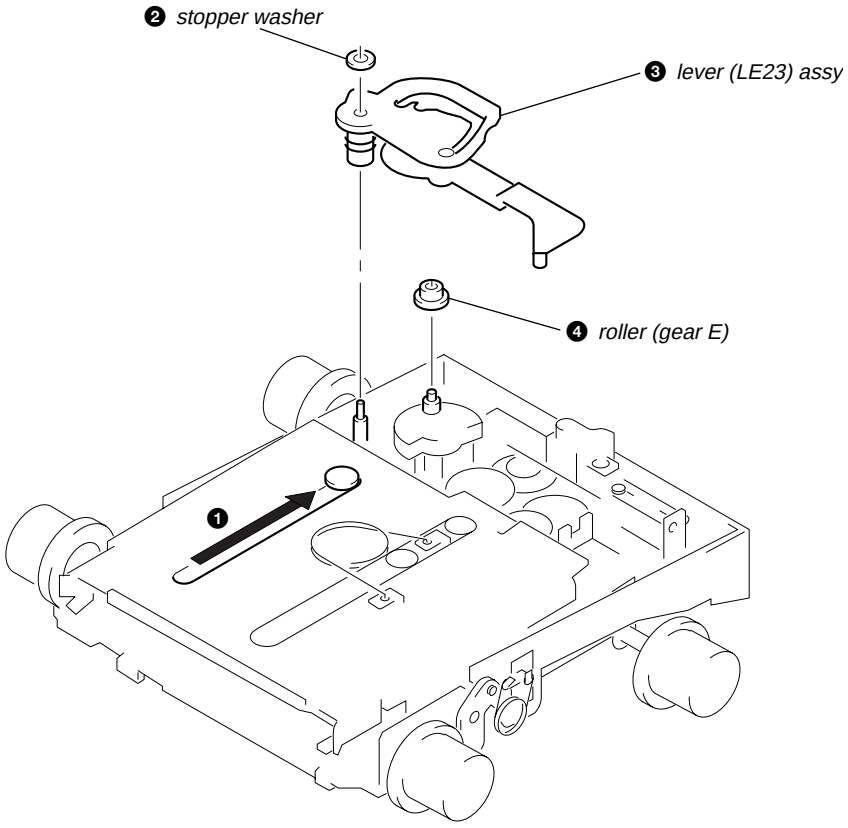
2-8. FLOAT BLOCK


❸ Pushing an arrow Ⓐ part, raise the float block up ward at the front to release a lock.
Ⓐ
float block
❶ tension spring (float B)
❺ two dampers assy
❻ float block
❺ two dampers assy
lever (lock R)
lever (lock L)
❹
❶ tension spring (float B)
❷ two tension springs (float F)

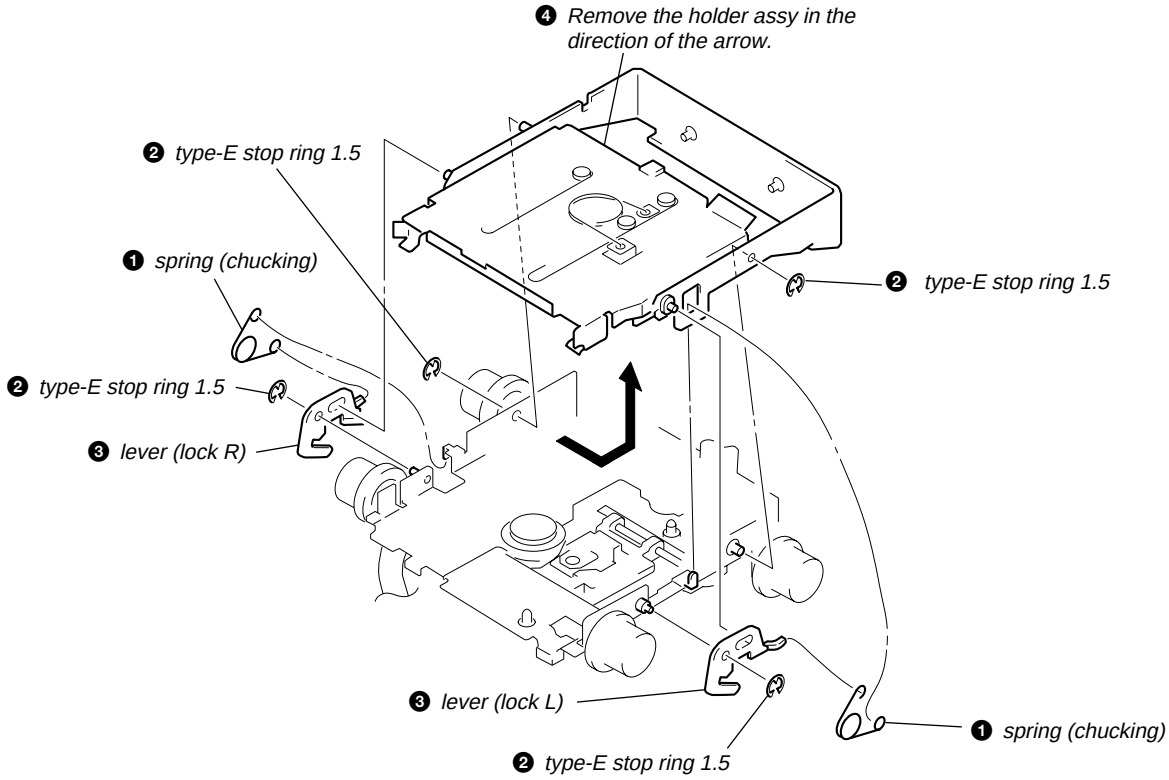
2-9. LO MOTOR ASSY (LOADING) (M903)


❹ Remove the bracket (LO) in the direction of the arrow Ⓐ.
Ⓐ
❺ LO motor assy (loading) (M903)
❶ Remove solders of motor (M903).
❷ tension spring (rack)
❸ claw
bracket (LO)
– bottom view –

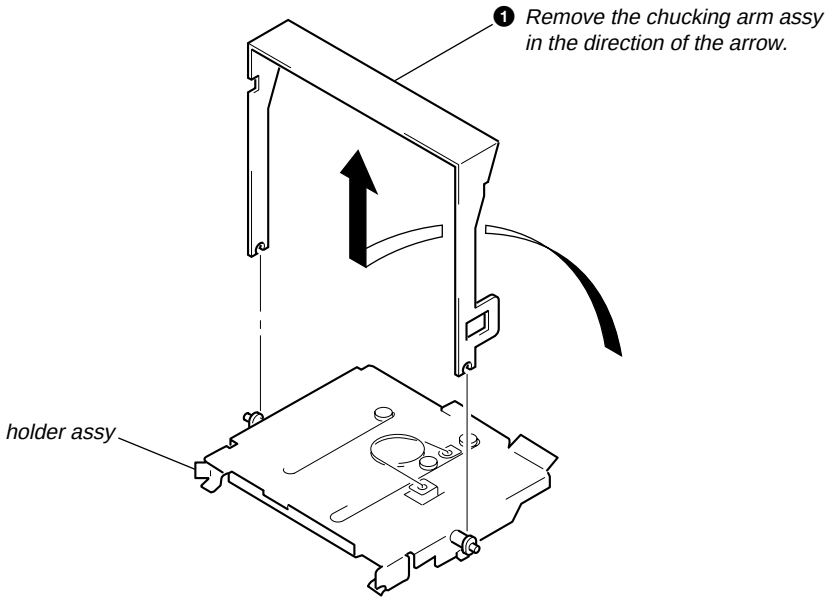
2-10. LEVER (LE23) ASSY



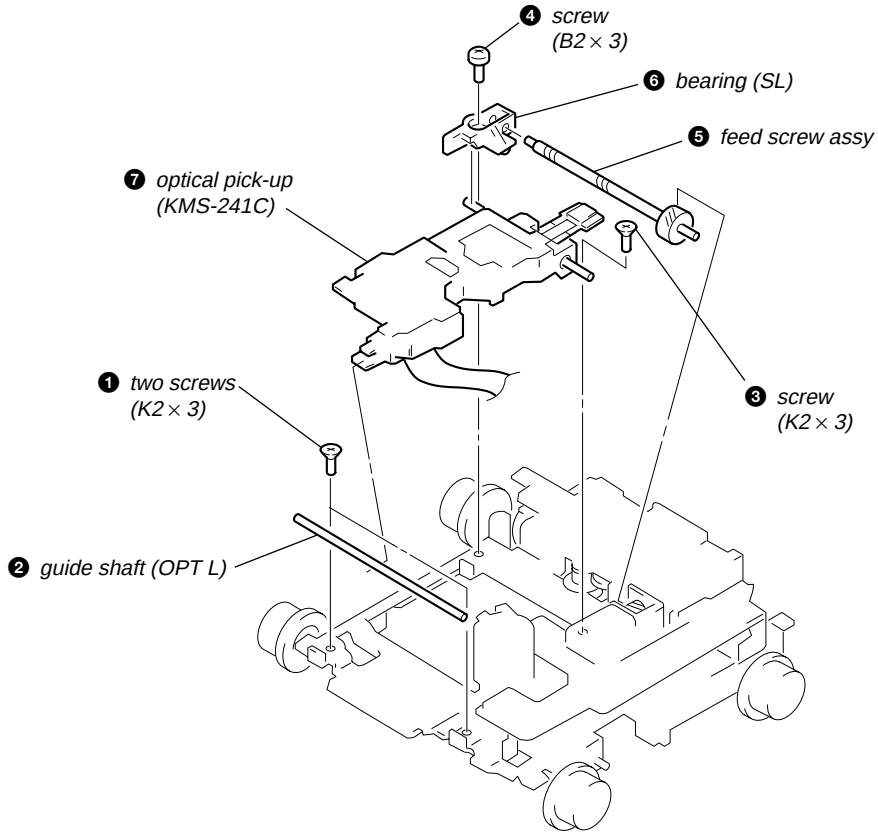
2-11. HOLDER ASSY


❹ Remove the holder assy in the direction of the arrow.
❷ type-E stop ring 1.5
❶ spring (chucking)
❷ type-E stop ring 1.5
❷ type-E stop ring 1.5
❸ lever (lock R)
❸ lever (lock L)
❶ spring (chucking)
❷ type-E stop ring 1.5

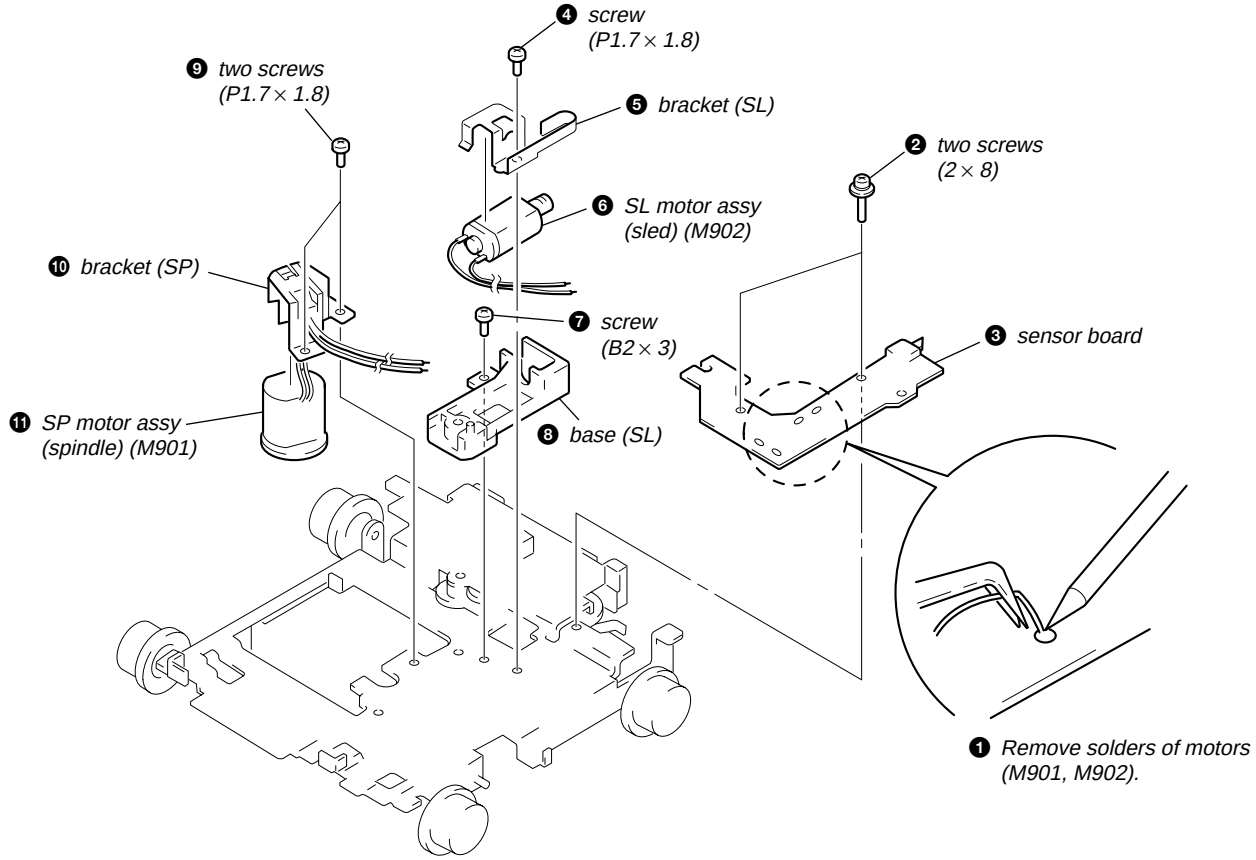
2-12. CHUCKING ARM ASSY



2-13. OPTICAL PICK-UP (KMS-241C)



2-14. SL MOTOR ASSY (SLED) (M902), SP MOTOR ASSY (SPINDLE) (M901)



SECTION 3
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function.

<Set the Test Mode>

1. Turn ON the regulated power supply. (The clock is displayed)
   Note: Press the [OFF] button, if the clock is not displayed.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test mode>

1. Push the [OFF] button.

MD SECTION

MD section adjustments are done automatically in this set.

TUNER SECTION

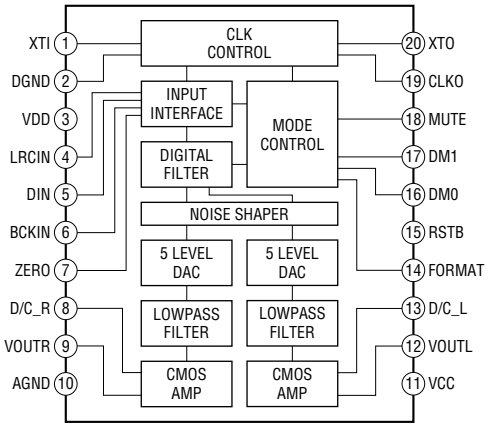
Tuner section adjustments are done automatically in this set.

SECTION 4
DIAGRAMS

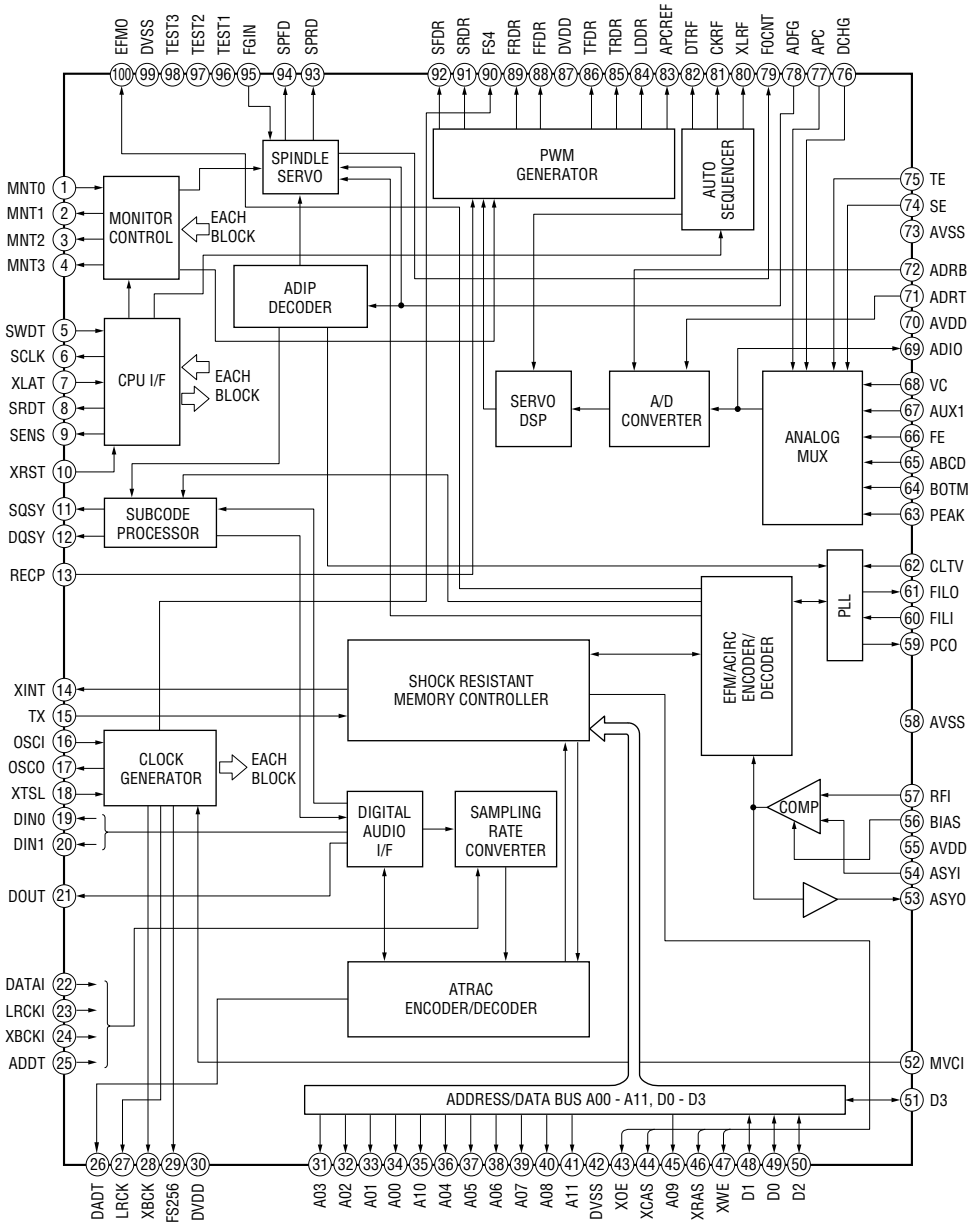
- **IC Block Diagrams**

– SERVO Board –

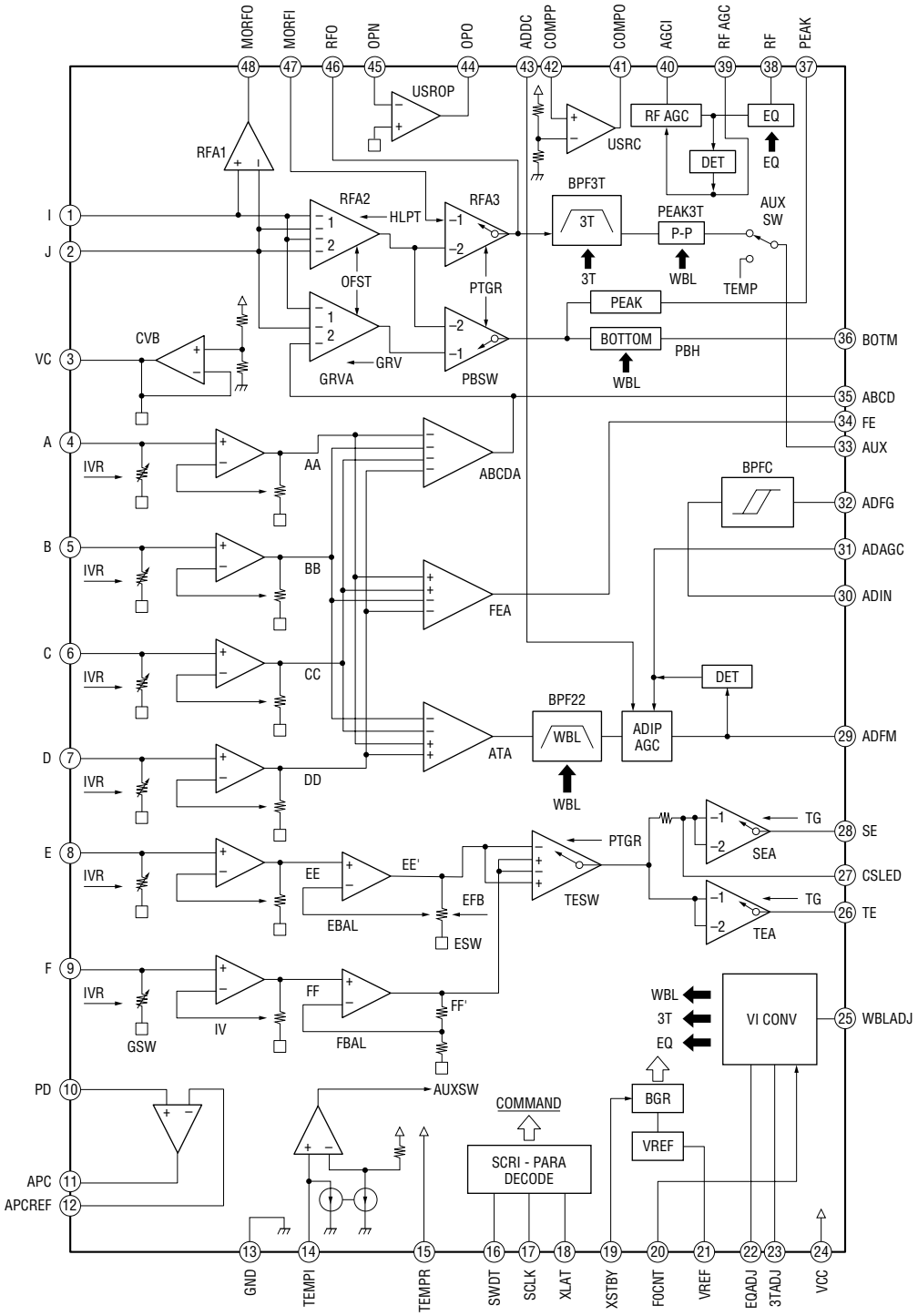
IC101 PCM1718E/2K



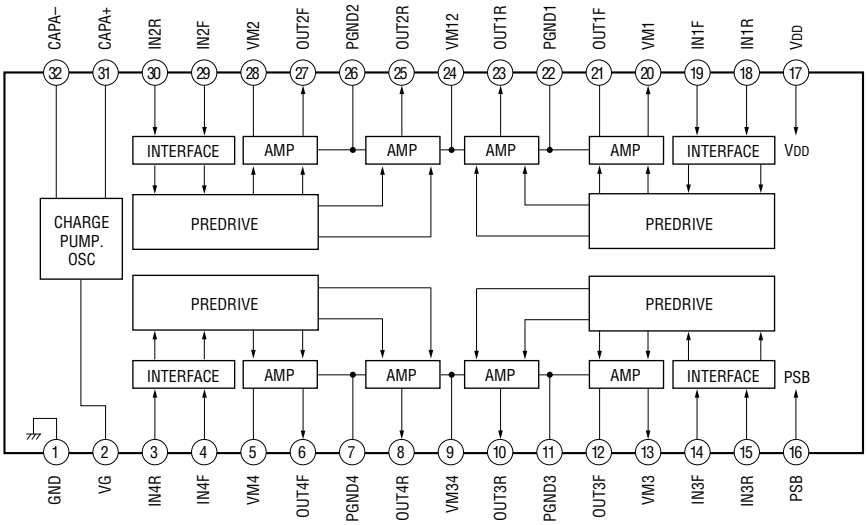
IC301 CXD2662R



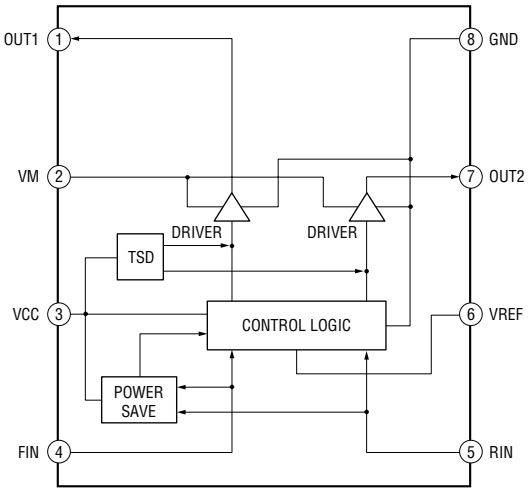
IC302 CXA2523AR



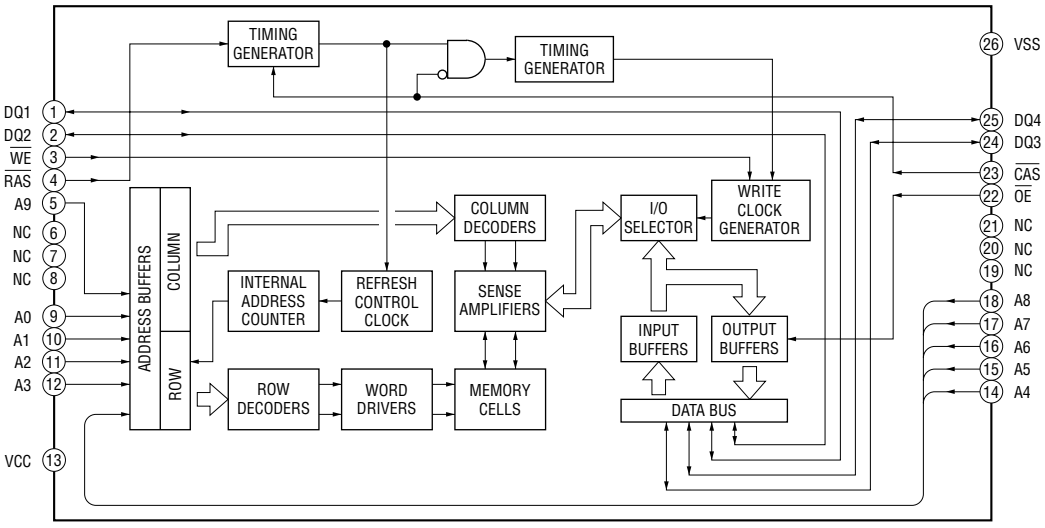
IC303 BH6518FS-E2



IC305 BA6287F

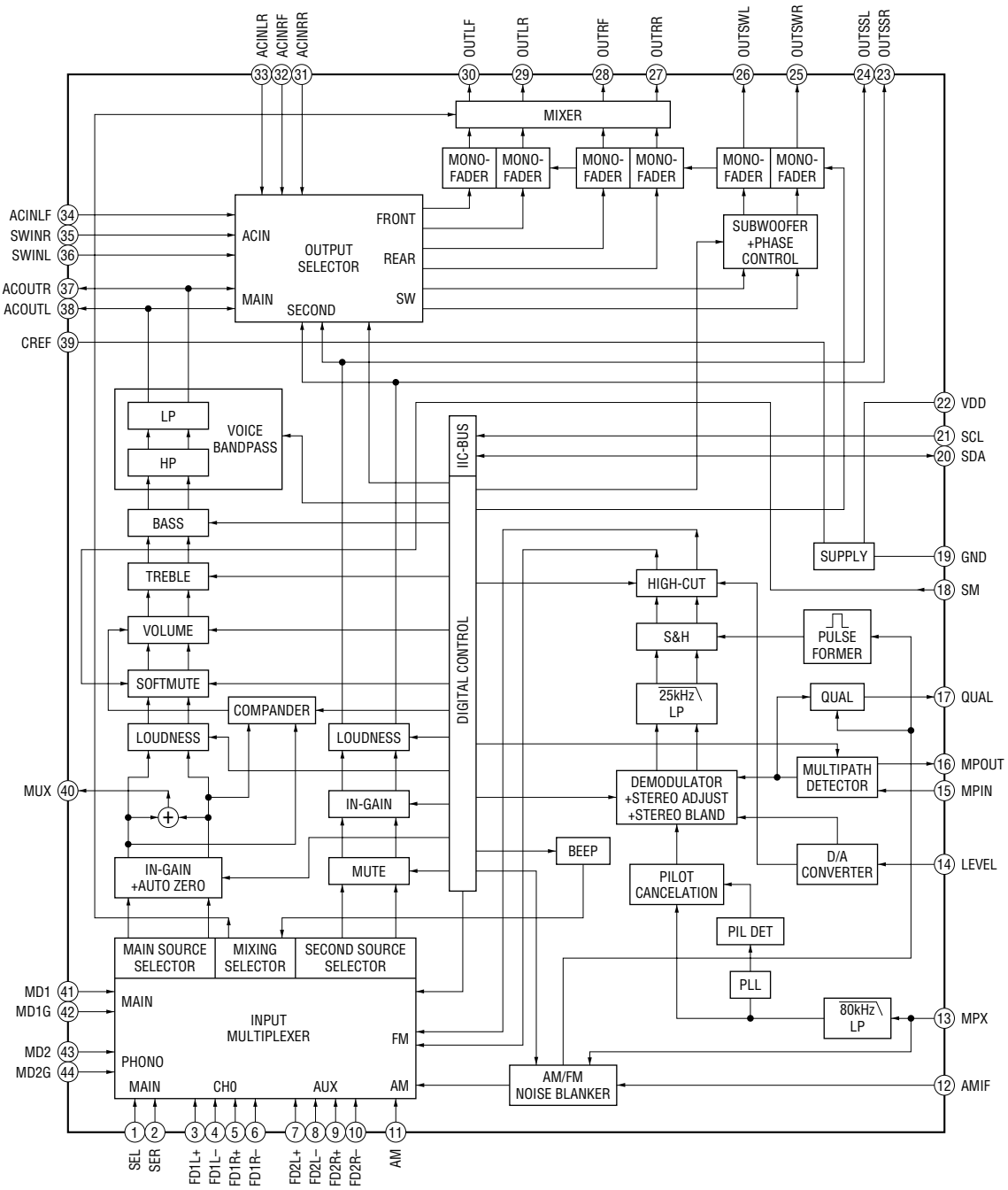


IC307 MSM51V4400E-70TS-K

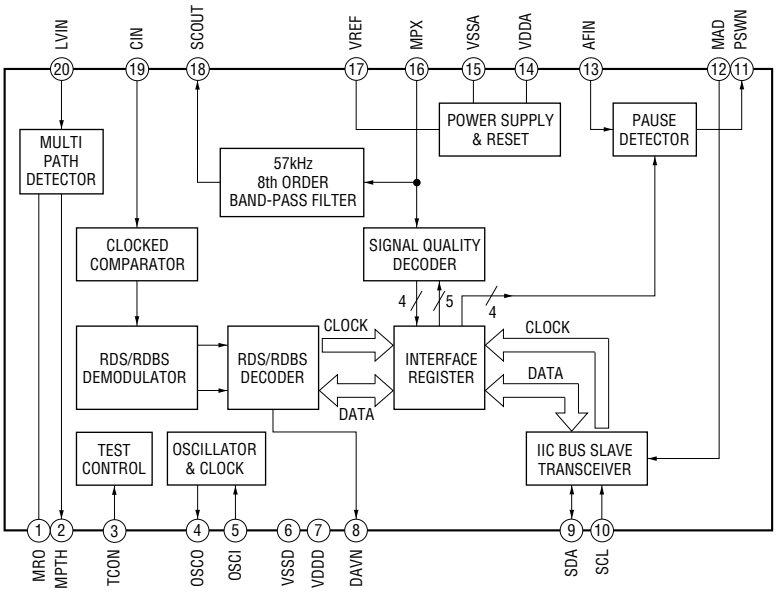


– MAIN Board –

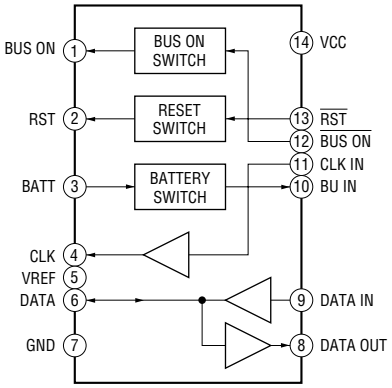
IC401 TDA7402TR



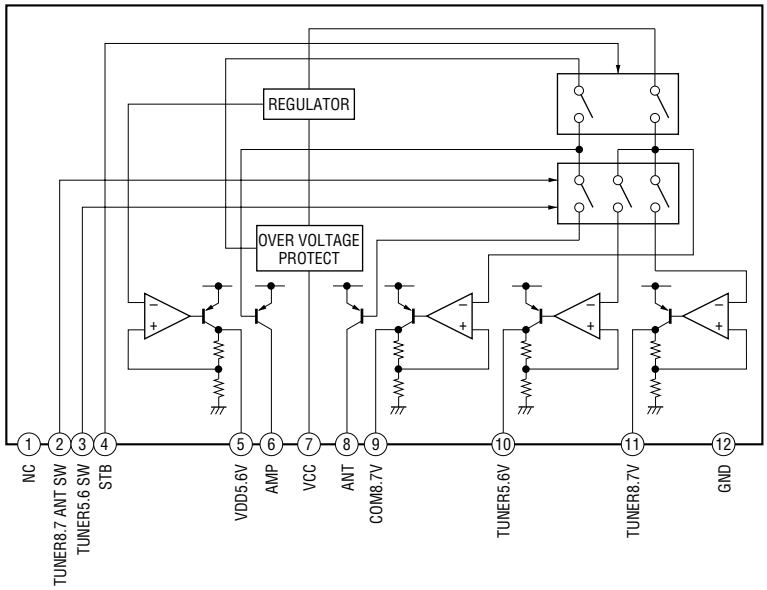
IC51 SAA6588T-118



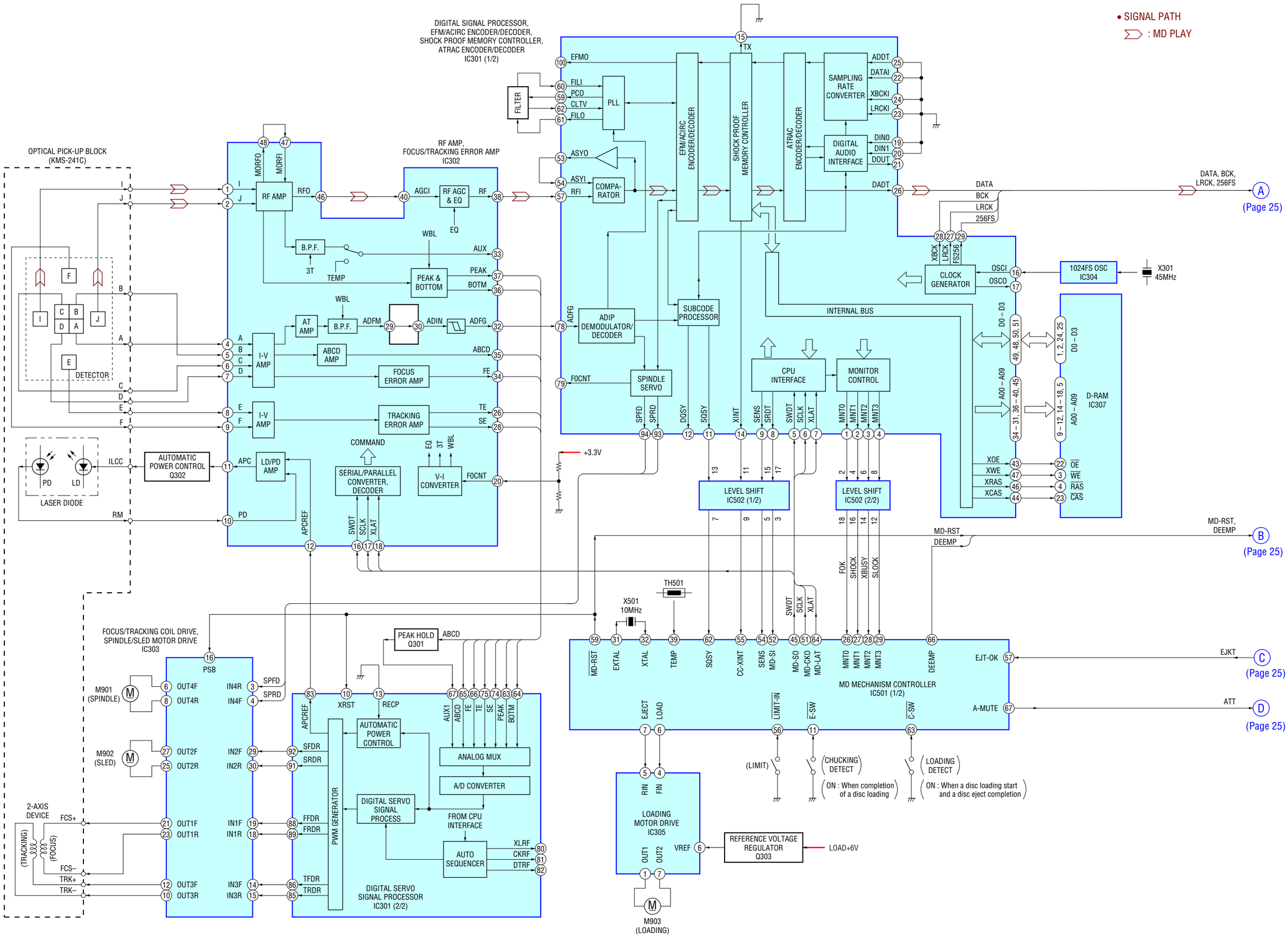
IC505 BA8270F-E2



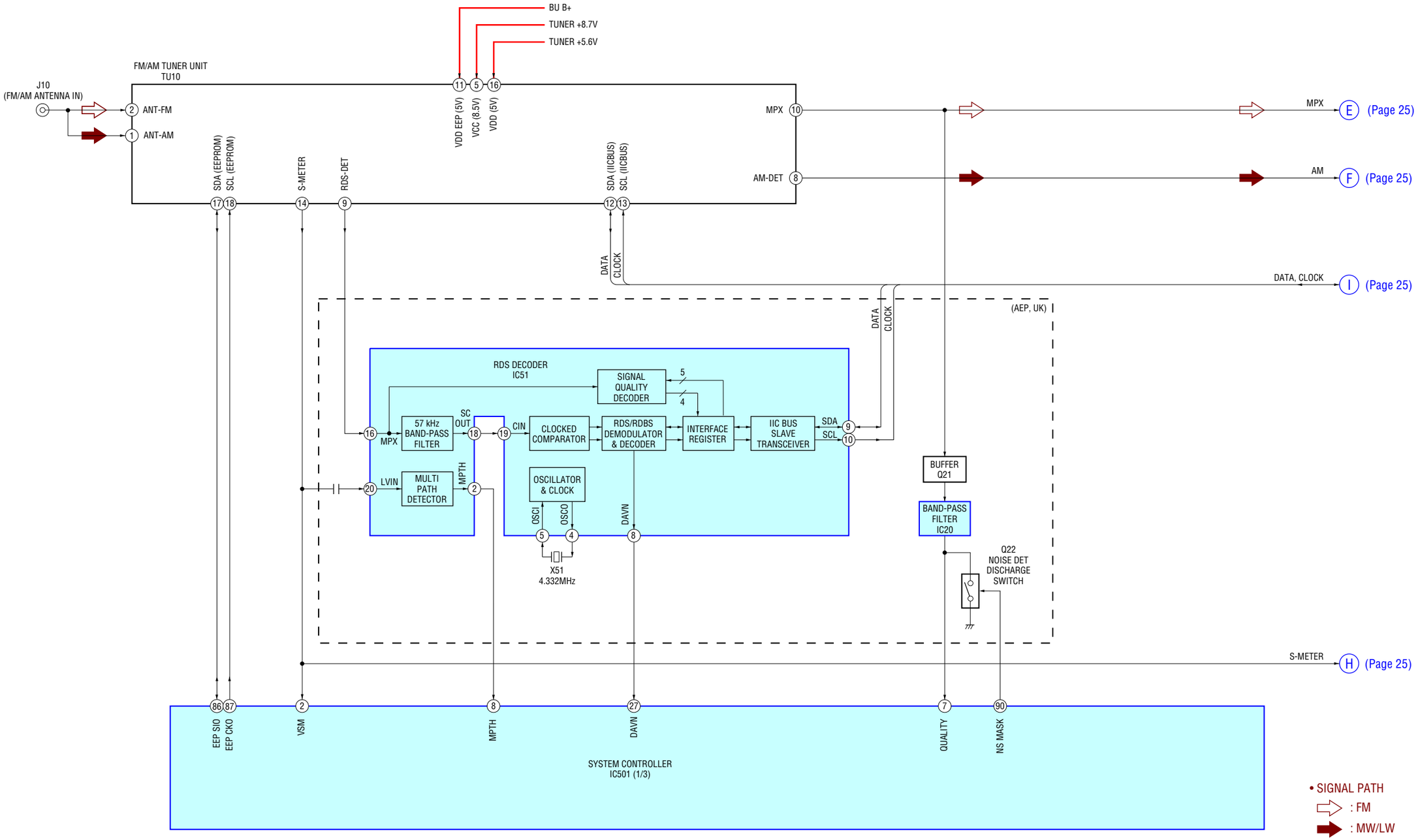
IC601 BA4908-V3



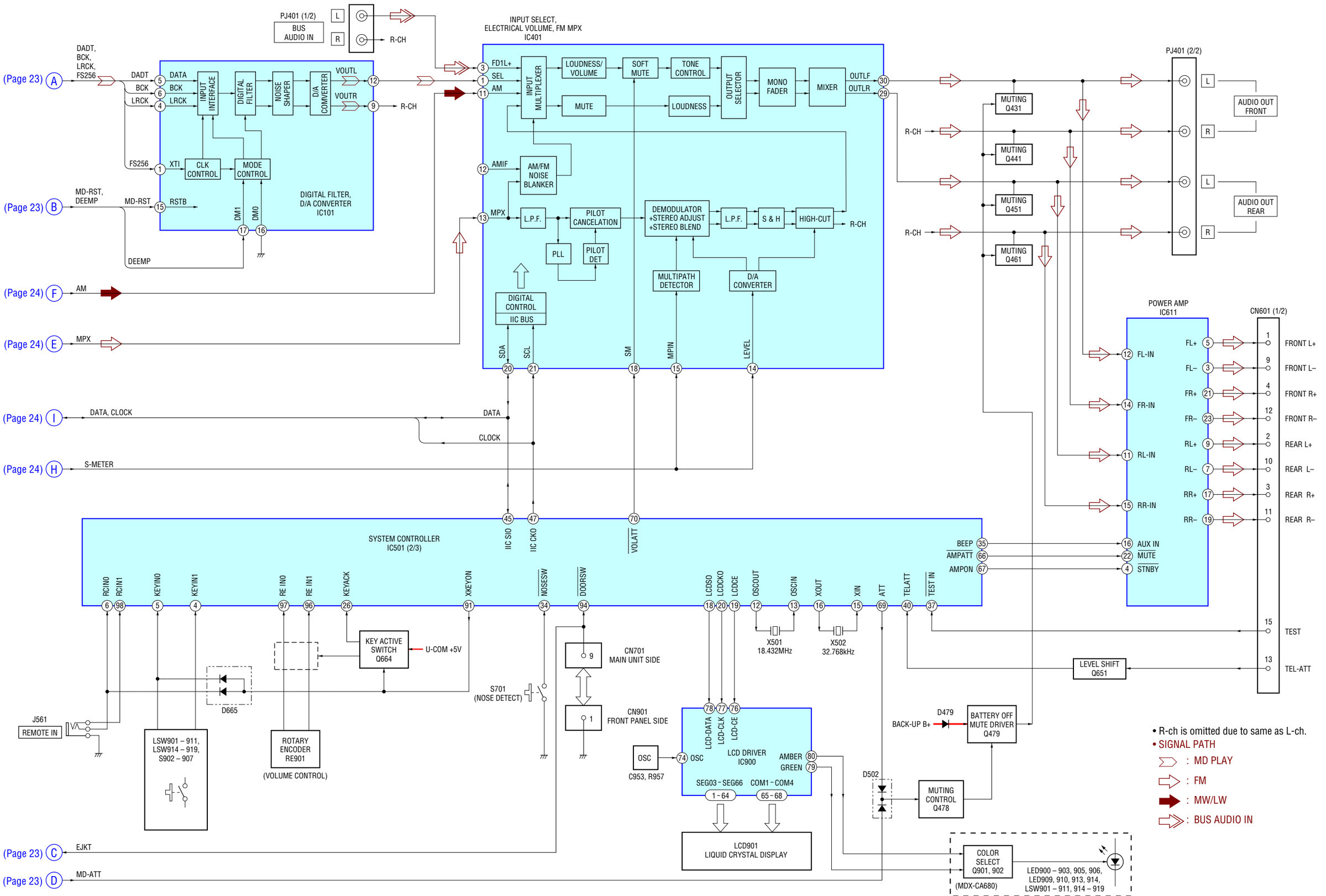
4-1. BLOCK DIAGRAM – SERVO Section –



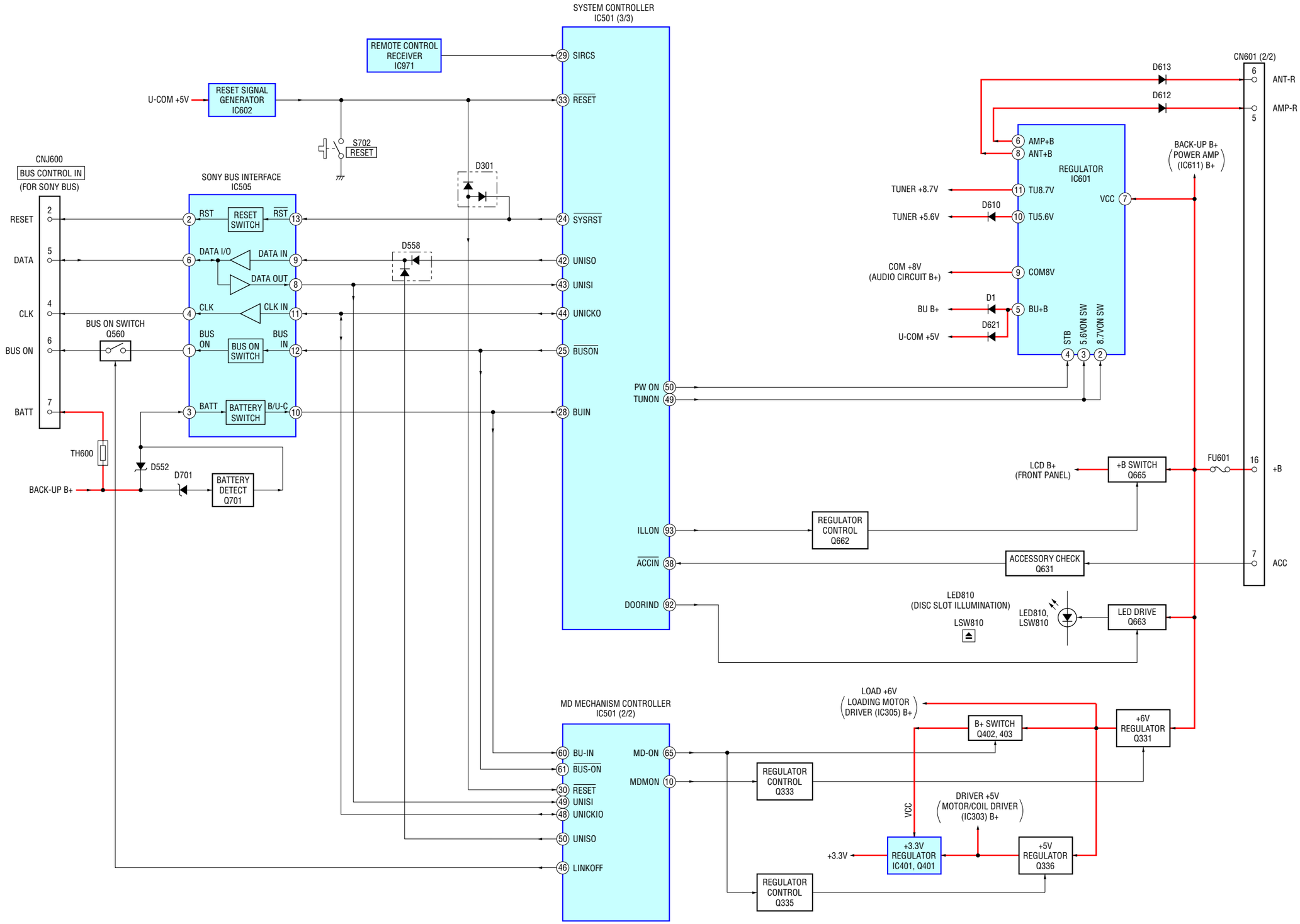
4-2. BLOCK DIAGRAM – TUNER Section –



4-3. BLOCK DIAGRAM – MAIN Section –



4-4. BLOCK DIAGRAM – BUS CONTROL/POWER SUPPLY Section –



4-5. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

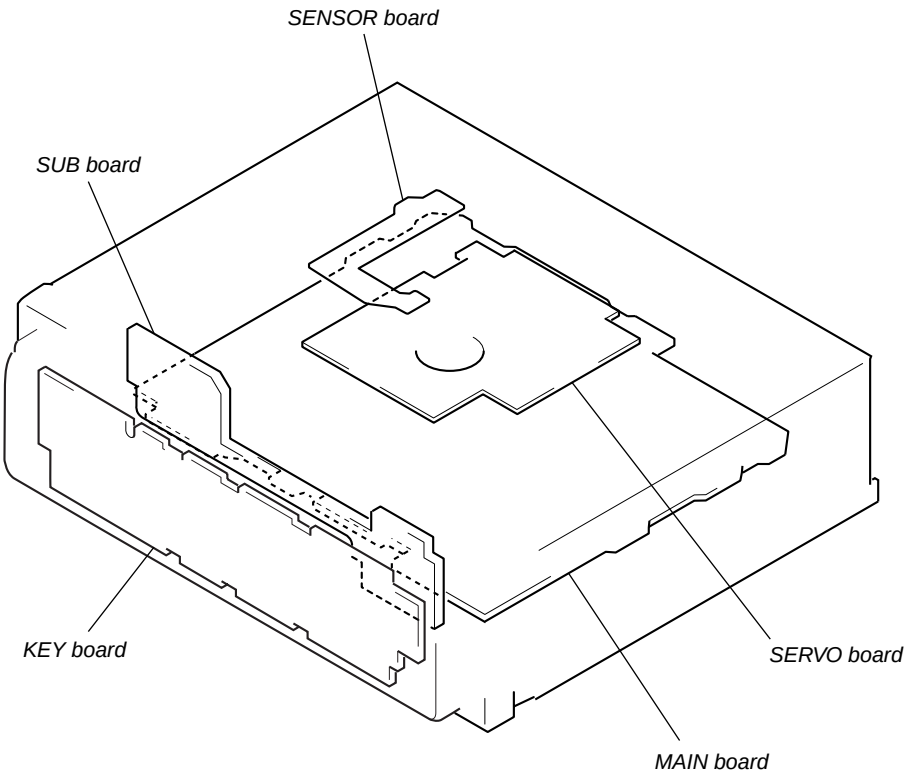
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

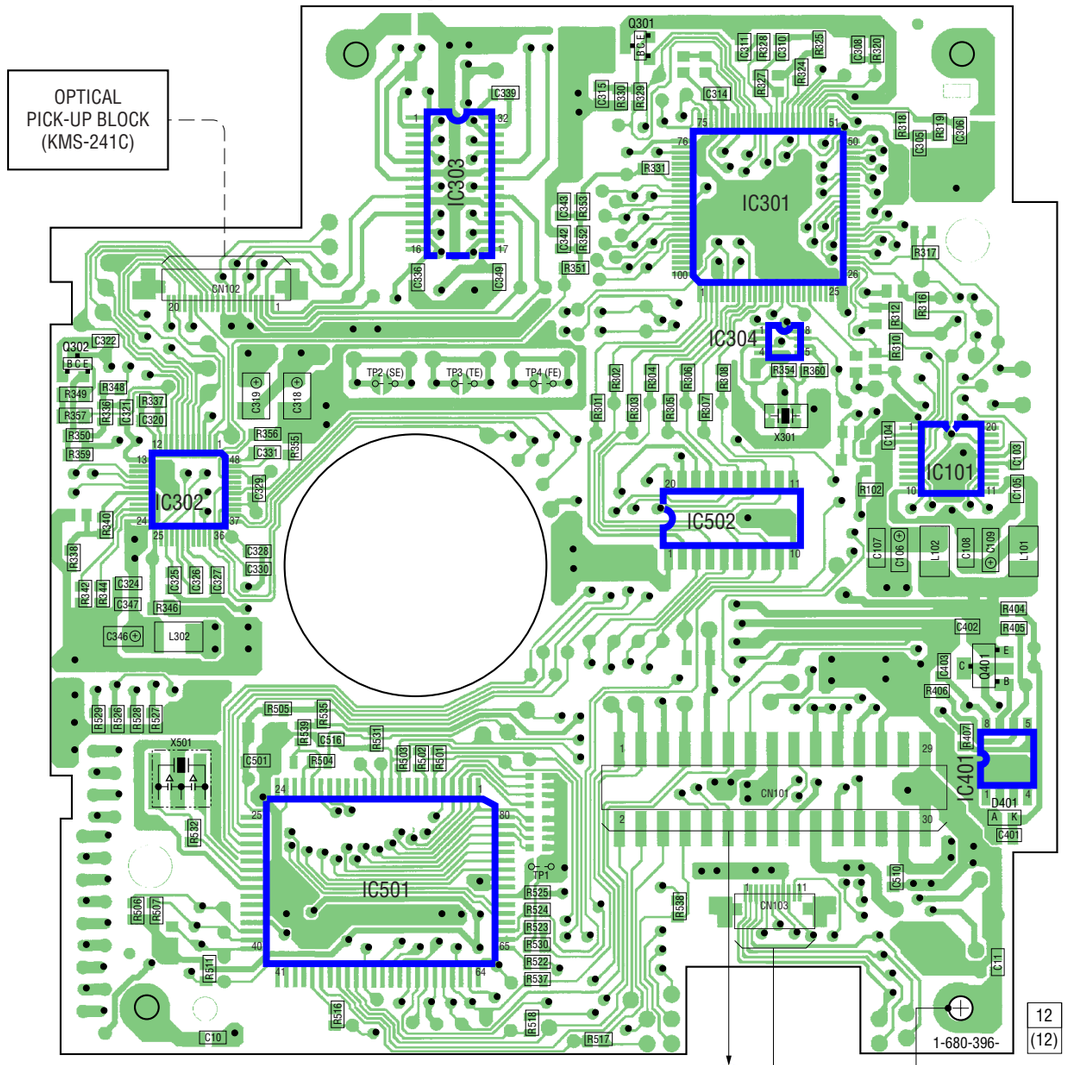
- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : MD PLAY
  - : FM
  - : AM (MW/LW)
  - : BUS AUDIO IN

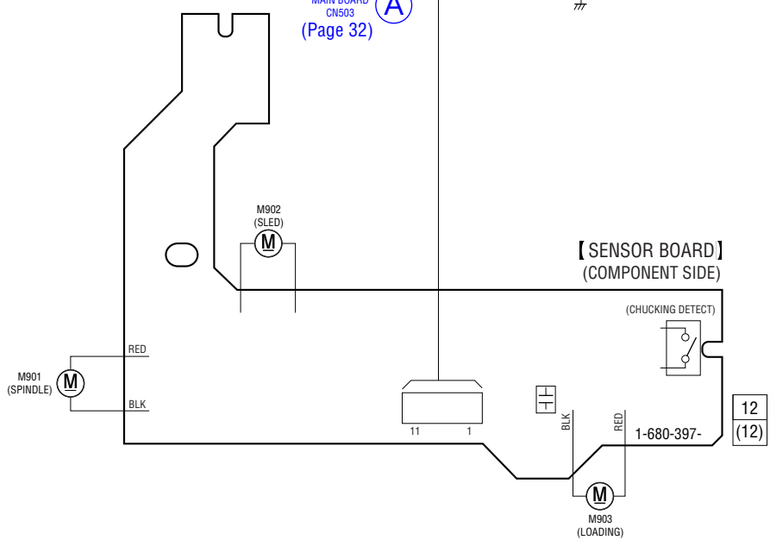
- **Circuit Boards Location**



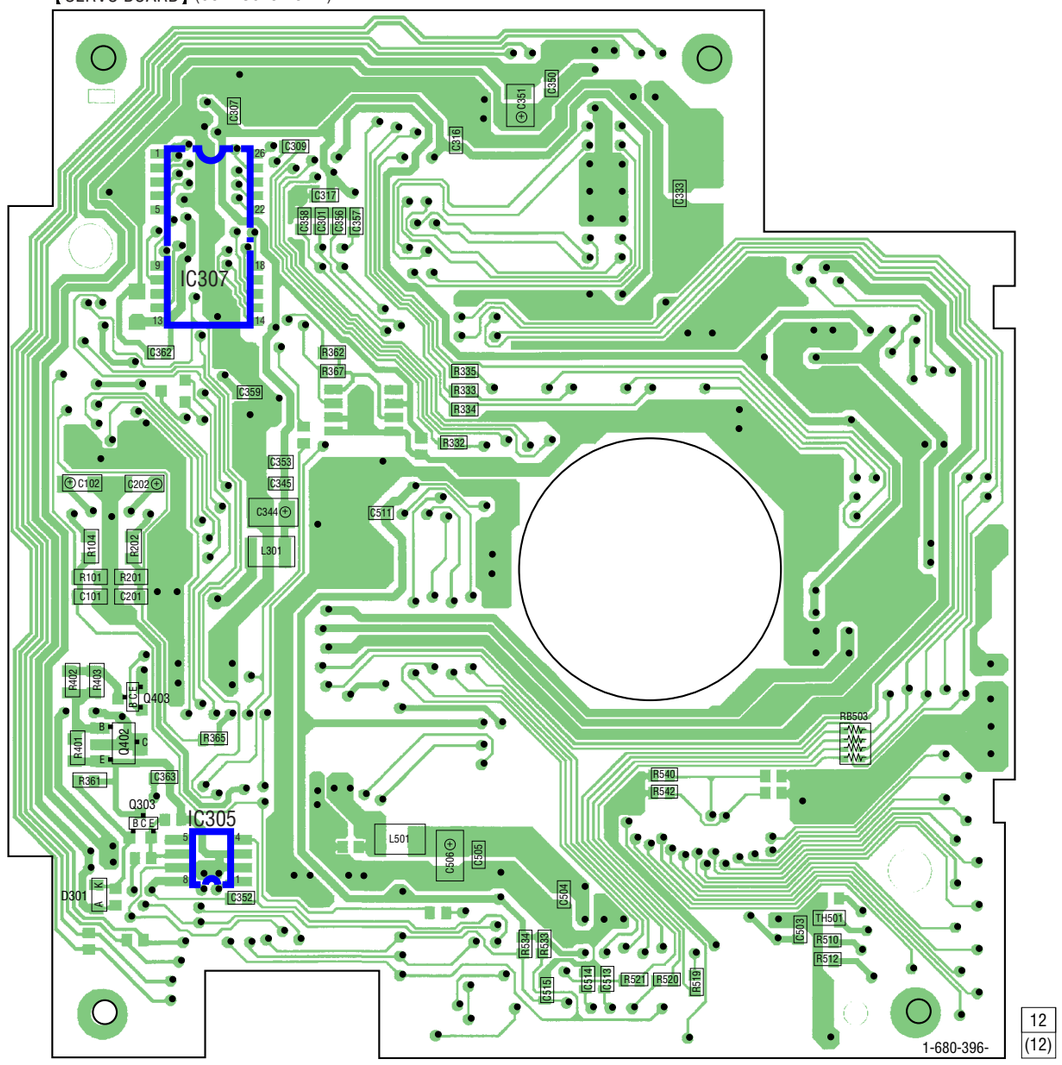
4-6. PRINTED WIRING BOARDS – SERVO Section – • See page 28 for Circuit Boards Location.

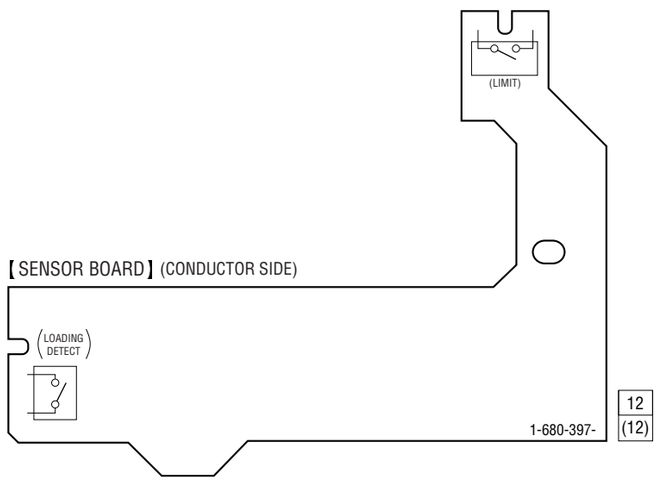
【SERVO BOARD】(COMPONENT SIDE)





【SERVO BOARD】(CONDUCTOR SIDE)





- **Semiconductor Location**

Ref. No.	Location
D301	G-9
D401	F-7
IC101	D-7
IC301	B-6
IC302	D-2
IC303	B-4
IC304	C-6
IC305	G-10
IC307	B-10
IC401	F-7
IC501	G-3
IC502	D-6
Q301	A-5
Q302	C-1
Q303	F-9
Q401	E-7
Q402	F-9
Q403	E-9

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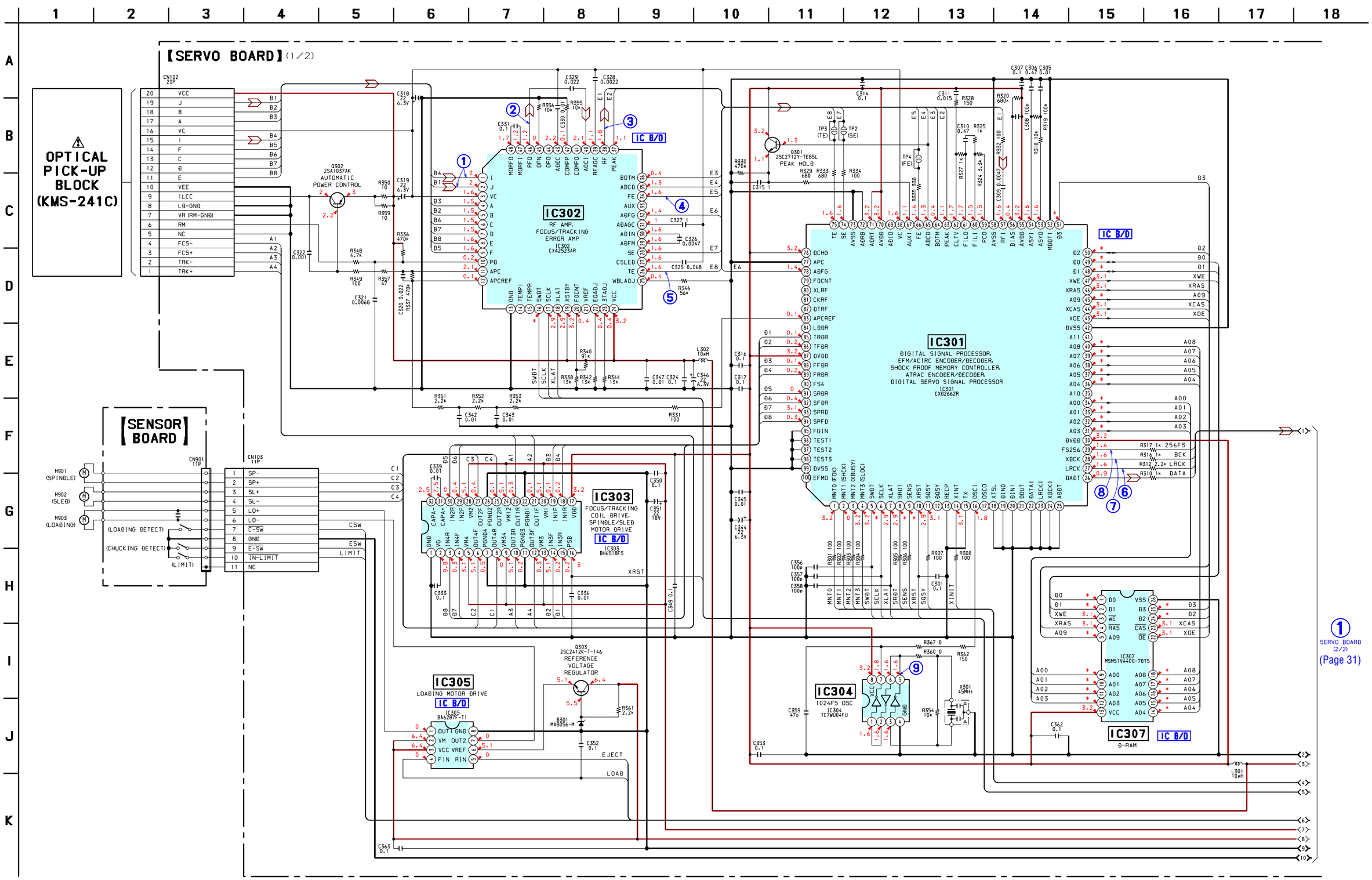
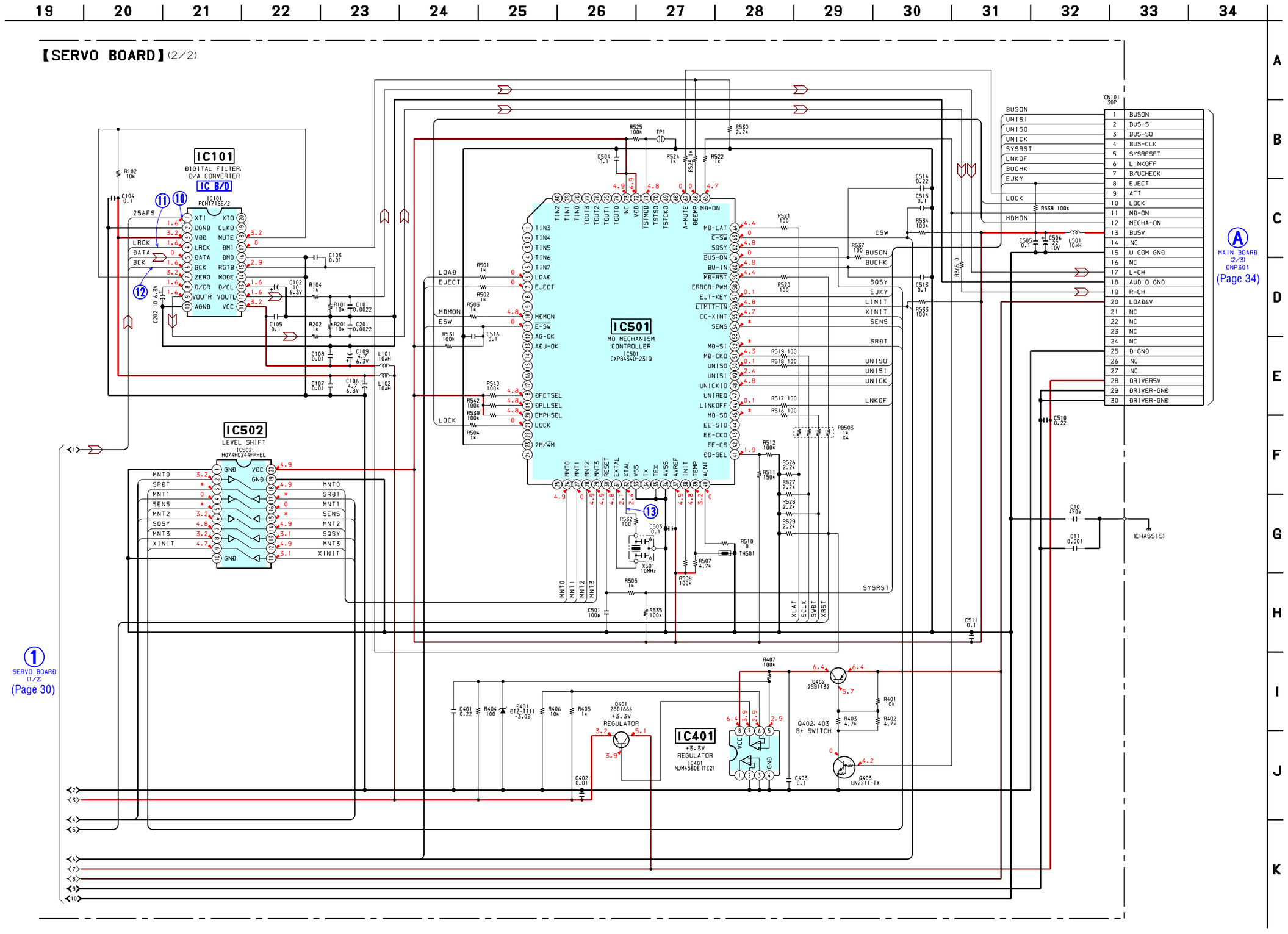
4-7. SCHEMATIC DIAGRAM – SERVO Section (1/2) – • See page 40 for Waveforms. • See page 18 for IC Block Diagrams.



• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : MD PLAY
＊ : Impossible to measure

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-8. SCHEMATIC DIAGRAM – SERVO Section (2/2) – • See page 40 for Waveforms. • See page 18 for IC Block Diagram.

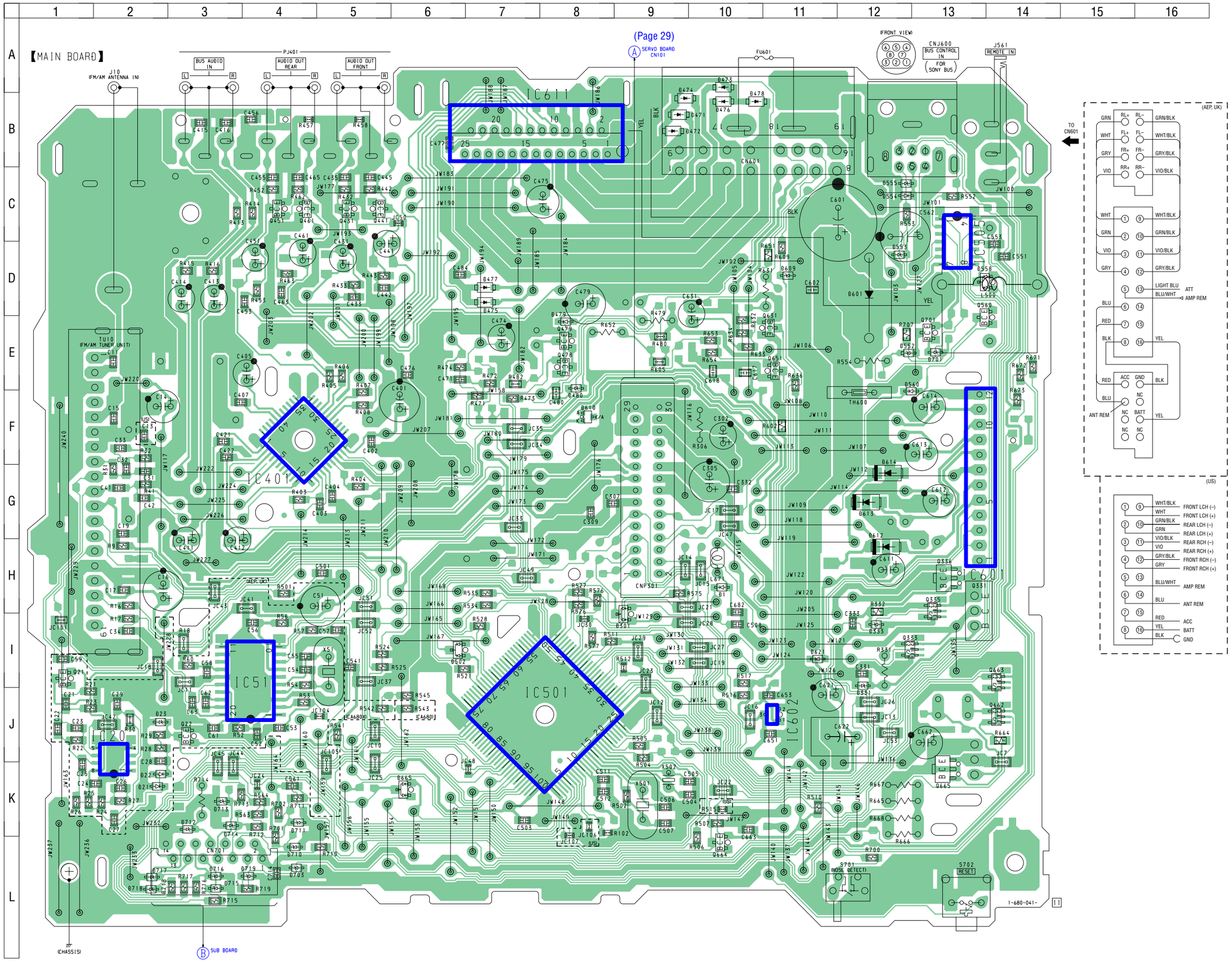


- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : MD PLAY
  ∗ : Impossible to measure

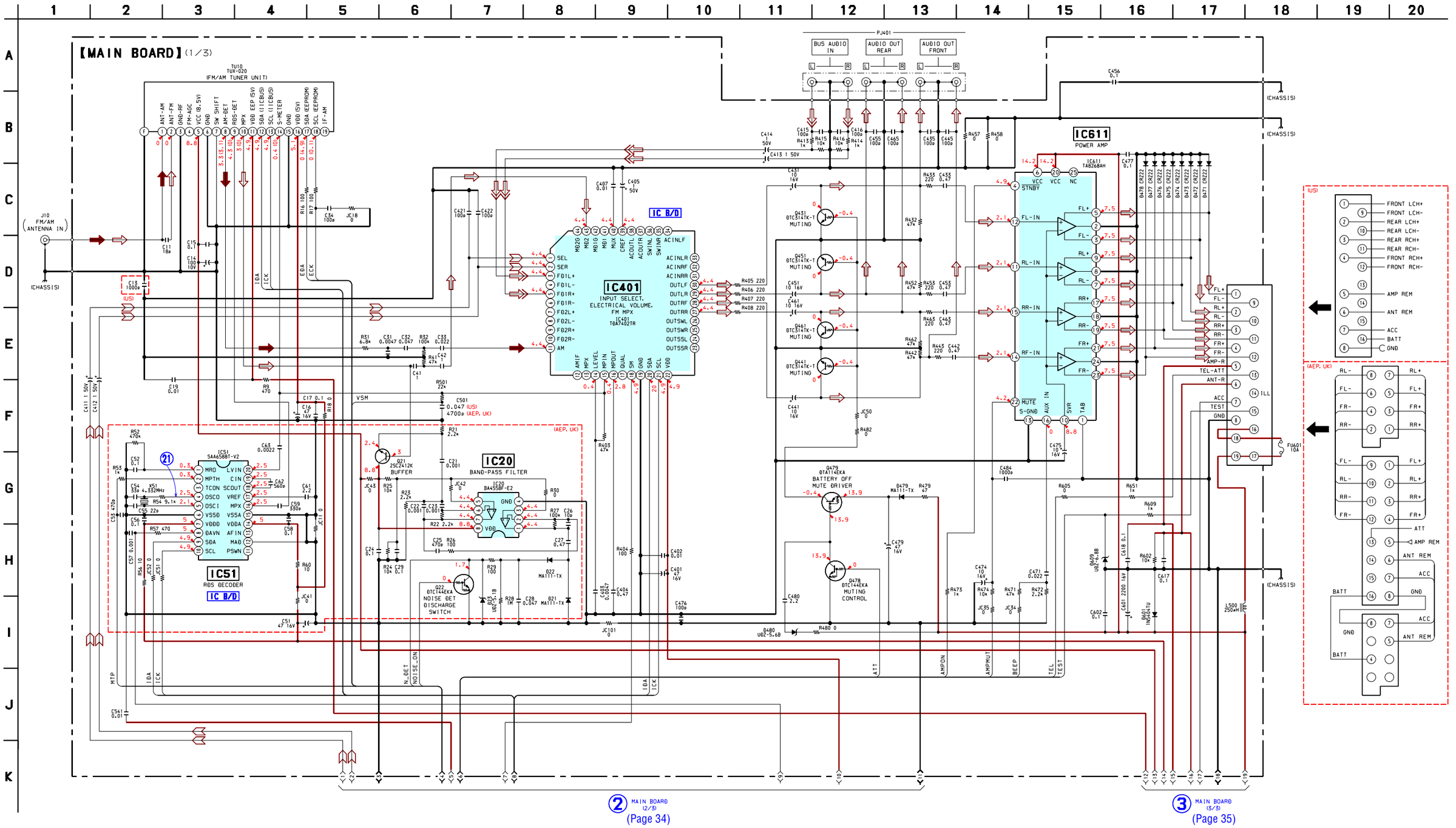
4-9. PRINTED WIRING BOARD – MAIN Board – • See page 28 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D1	H-10
D21	K-2
D22	K-2
D23	J-2
D301	I-9
D331	I-12
D333	I-12
D471	B-9
D472	B-9
D473	A-10
D474	B-9
D475	D-7
D476	B-10
D477	D-7
D478	B-10
D479	E-8
D480	E-8
D502	I-6
D552	E-12
D553	D-12
D554	C-12
D555	C-12
D558	D-13
D560	F-12
D601	D-12
D609	D-11
D610	F-8
D612	H-12
D613	G-12
D614	G-12
D621	I-11
D665	K-6
D701	E-13
D703	L-4
D710	L-4
D711	K-4
D712	K-3
D713	K-3
D714	K-3
D715	L-3
D716	L-3
D717	L-2
D718	L-2
D719	L-4
IC20	J-2
IC51	I-4
IC401	F-4
IC501	J-8
IC505	D-13
IC601	G-13
IC602	J-11
IC611	B-8
Q21	I-1
Q22	J-3
Q331	H-13
Q333	I-12
Q335	H-13
Q336	H-13
Q431	C-5
Q441	C-5
Q451	C-4
Q461	C-4
Q478	E-8
Q479	E-8
Q560	E-13
Q631	E-11
Q651	E-11
Q662	J-14
Q663	I-14
Q664	L-10
Q665	K-13
Q701	E-13

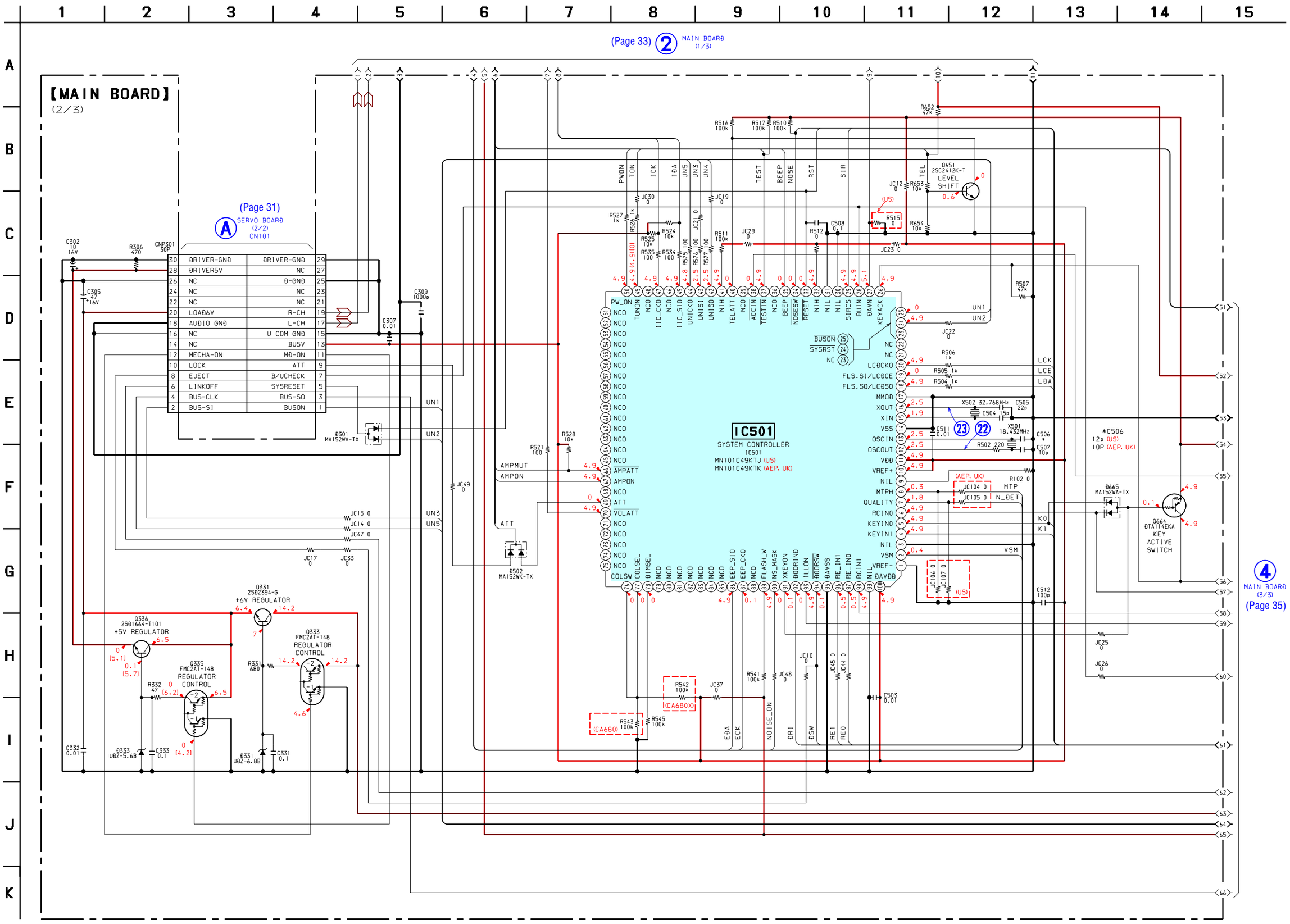


4-10. SCHEMATIC DIAGRAM – MAIN Board (1/3) – • See page 40 for Waveform. • See page 18 for IC Block Diagrams.



• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
( ) : AM (MW/LW)

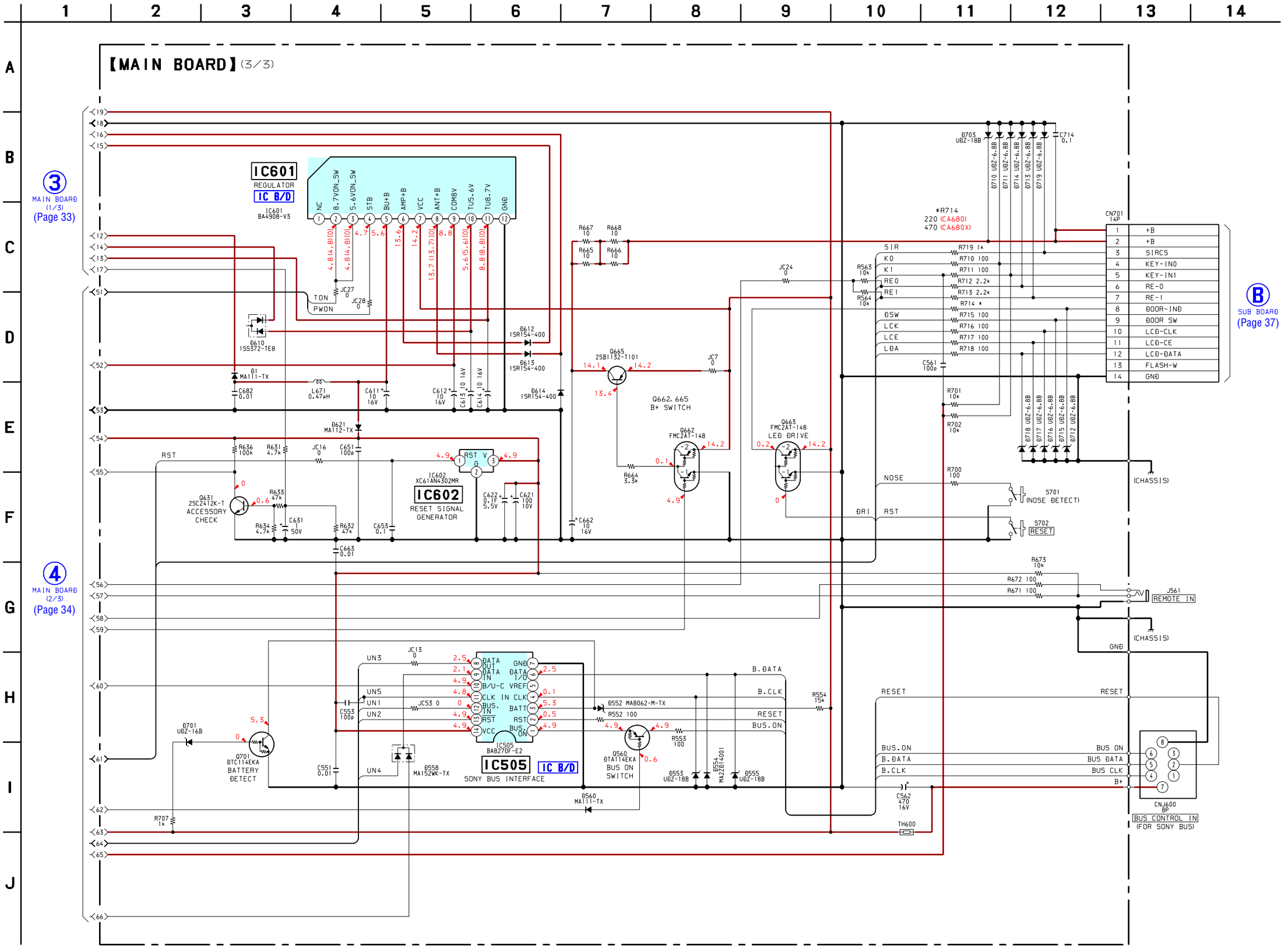
4-11. SCHEMATIC DIAGRAM – MAIN Board (2/3) – • See page 40 for Waveforms.



- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM (MW/LW)

4-12. SCHEMATIC DIAGRAM – MAIN Board (3/3) –

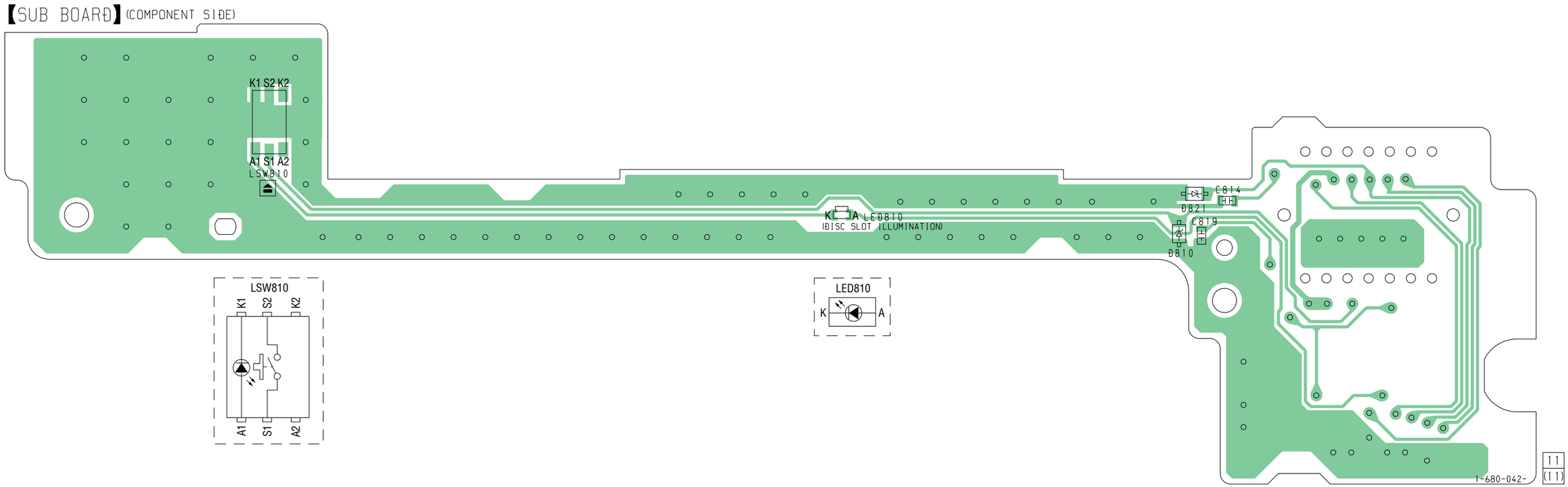
• See page 18 for IC Block Diagrams.

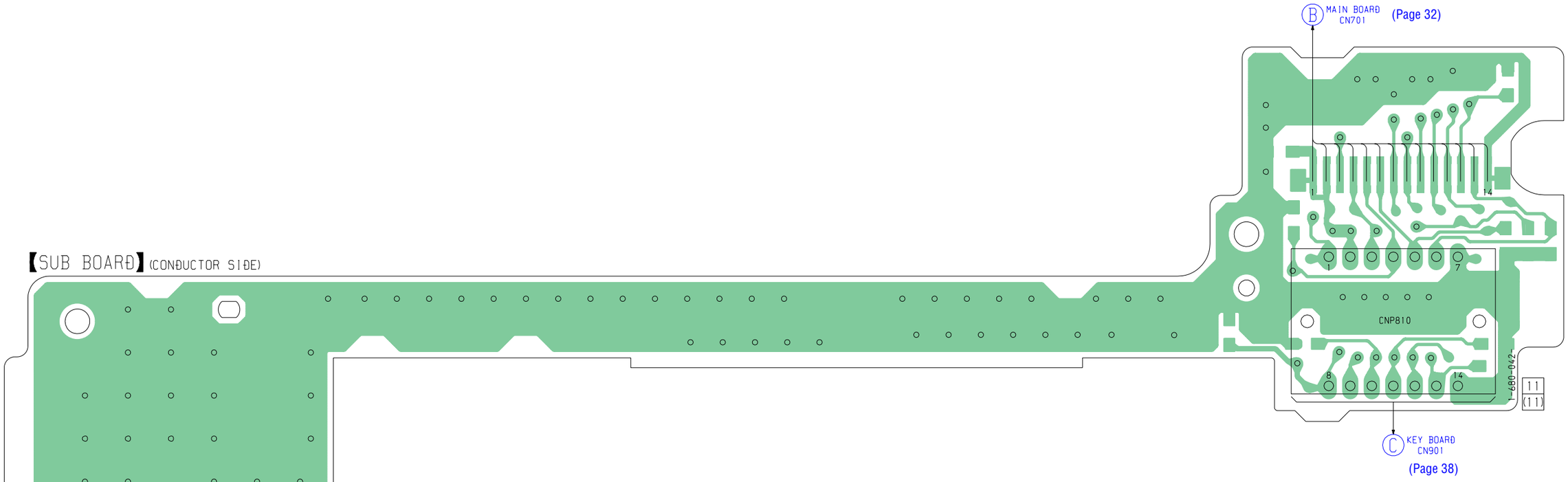


- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  [ ] : MD PLAY

4-13. PRINTED WIRING BOARD – SUB Board – • See page 28 for Circuit Boards Location.

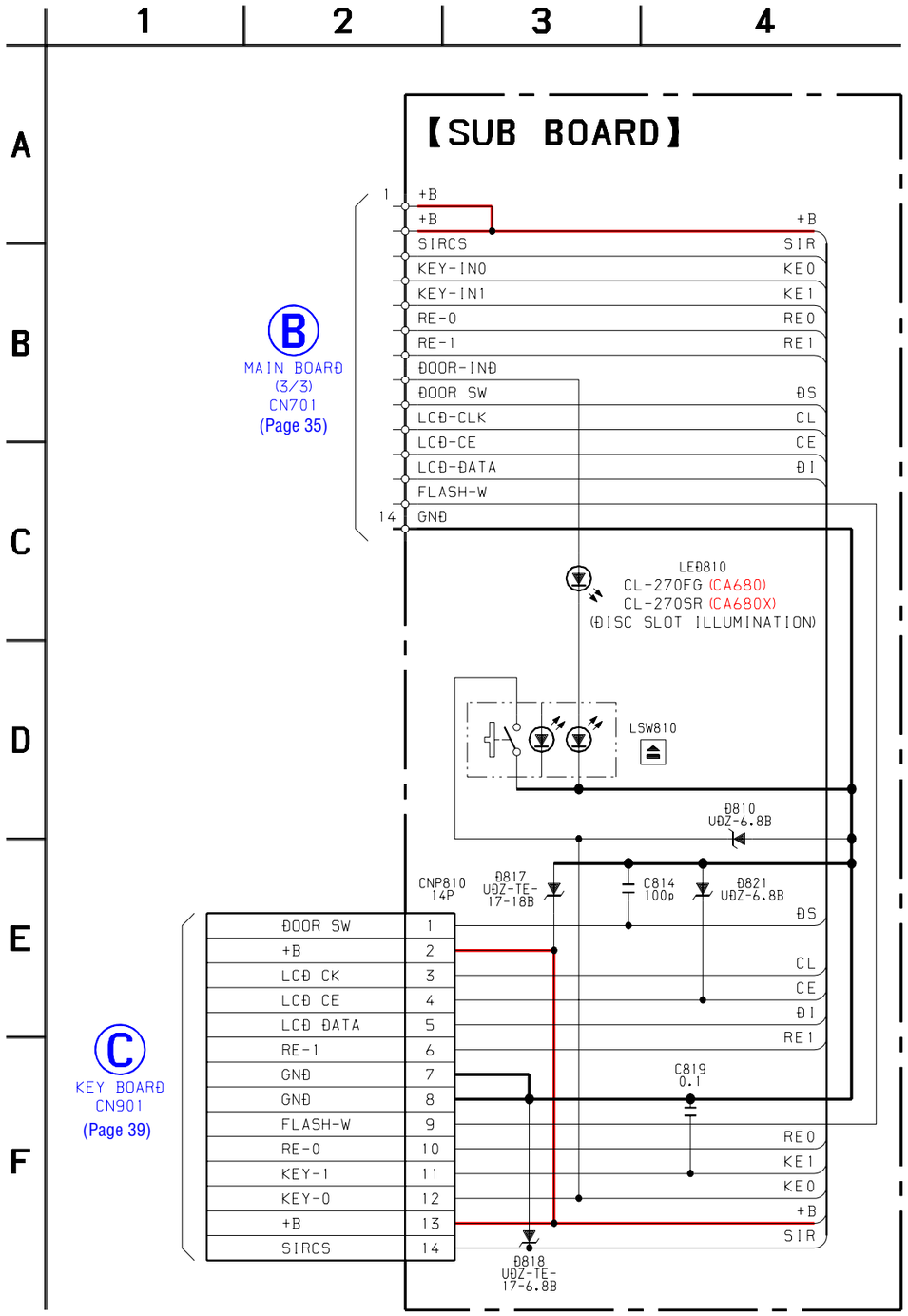
【SUB BOARD】(COMPONENT SIDE)





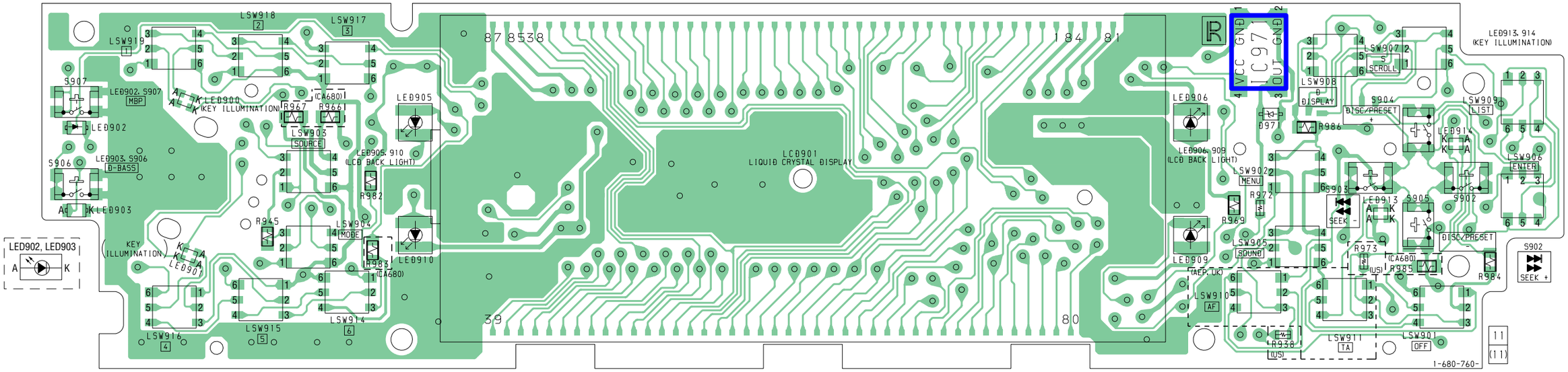
【SUB BOARD】(CONDUCTOR SIDE)

4-14. SCHEMATIC DIAGRAM – SUB Board –

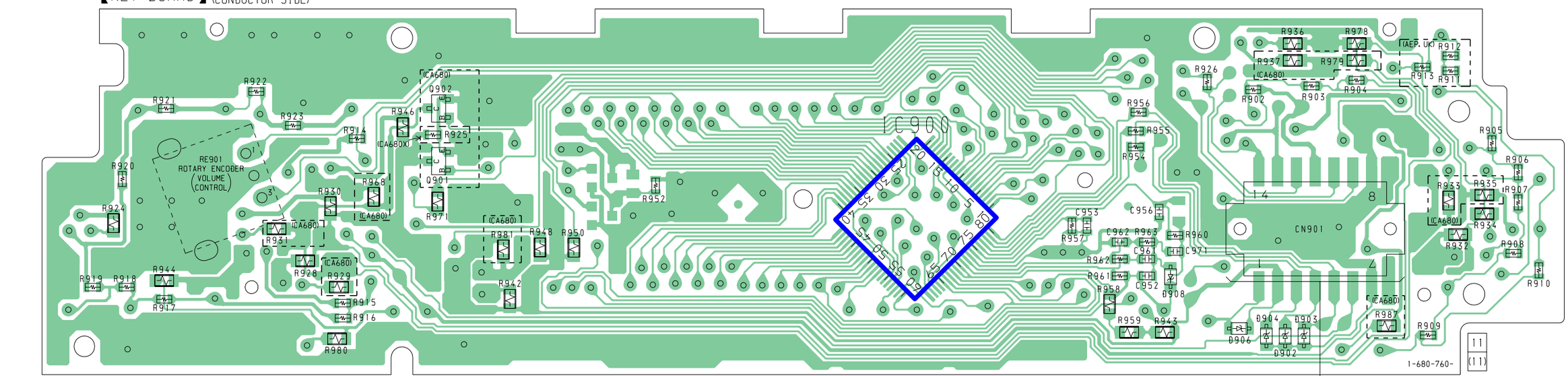


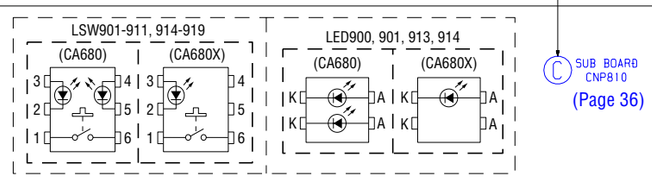
4-15. PRINTED WIRING BOARD – KEY Board – • See page 28 for Circuit Boards Location.

【KEY BOARD】(COMPONENT SIDE)



【KEY BOARD】(CONDUCTOR SIDE)



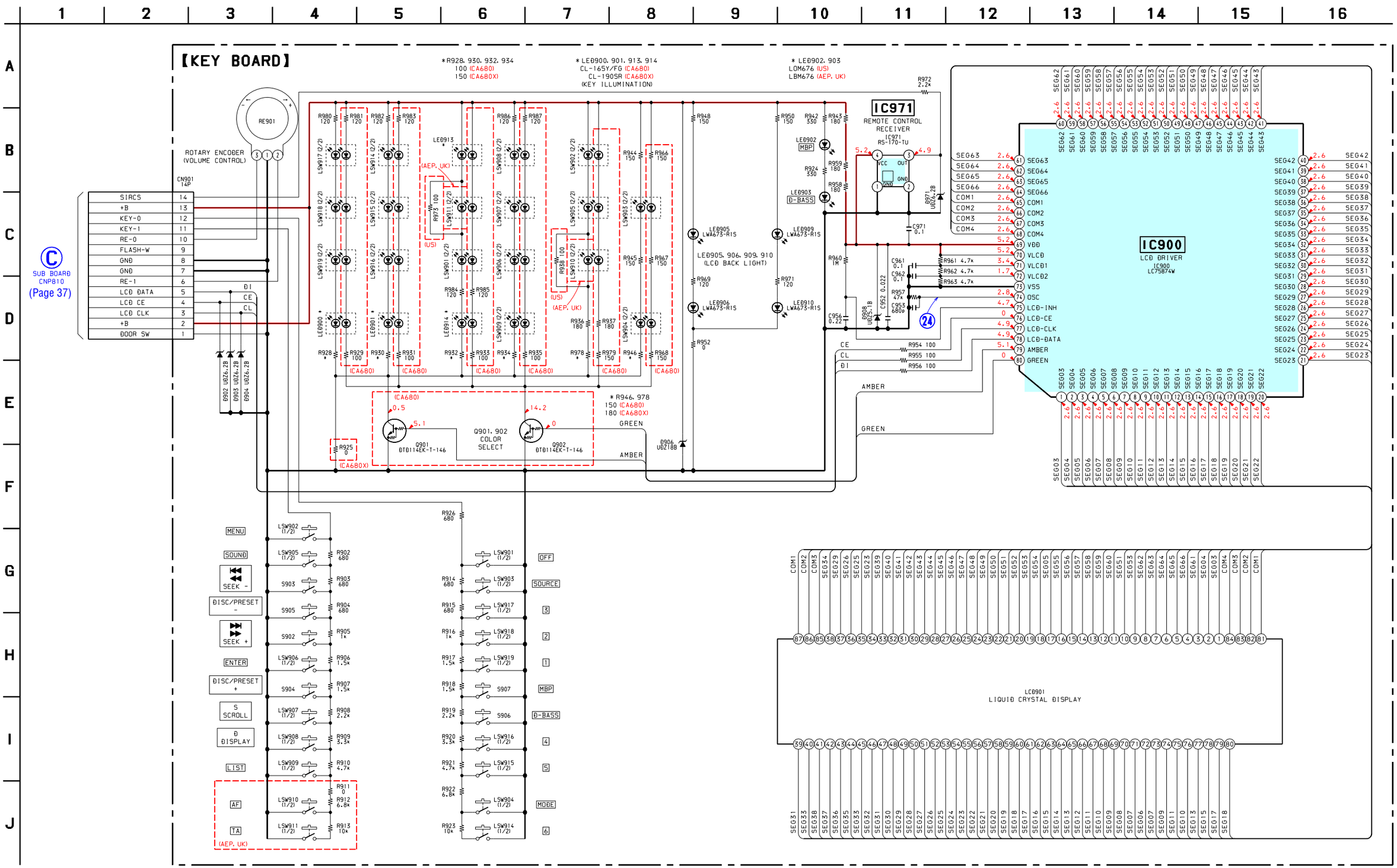


C SUB BOARD CNP810 (Page 36)

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D902	G-12	LED902	B-1
D903	G-12	LED903	C-1
D904	G-11	LED905	B-4
D906	G-11	LED906	B-11
D908	G-11	LED909	C-11
D971	B-11	LED910	C-4
		LED913	C-12
IC900	F-8	LED914	B-13
IC971	A-11		
		Q901	F-4
LED900	B-2	Q902	E-4
LED901	C-2		

4-16. SCHEMATIC DIAGRAM – KEY Board – • See page 40 for Waveform.

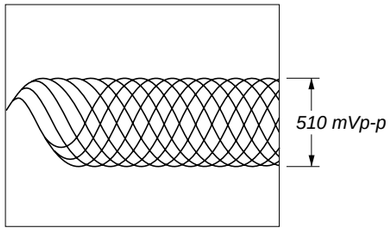


• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

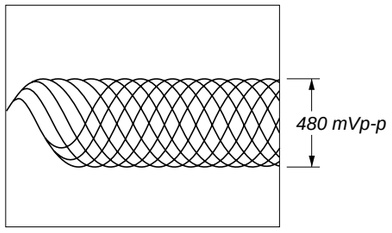
• **Waveforms**

– SERVO Board –

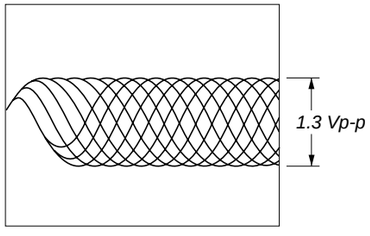
❶ IC302 ①, ② (I, J) (MD Play Mode)



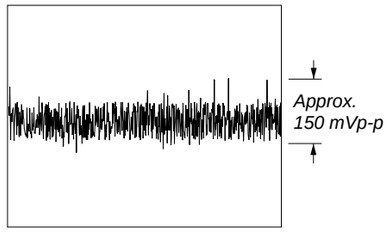
❷ IC302 ㊻ (RFO) (MD Play Mode)



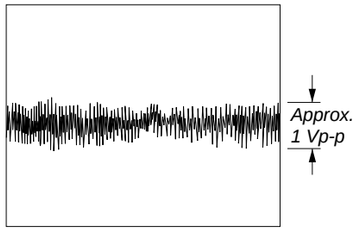
❸ IC302 ㊳ (RF) (MD Play Mode)



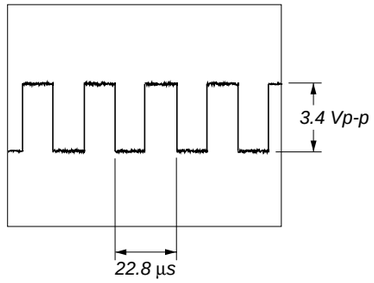
❹ IC302 ㉞ (FE) (MD Play Mode)



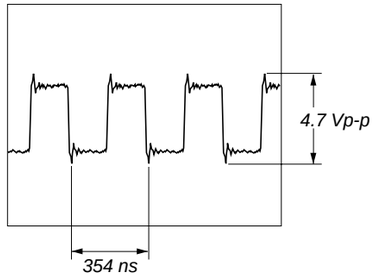
❺ IC302 ㉖ (TE) (MD Play Mode)



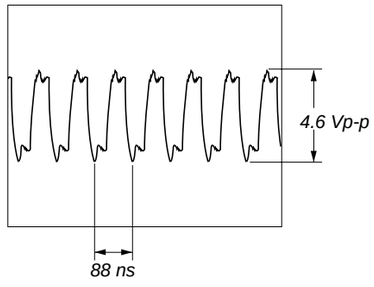
❻ IC301 ㉗ (LRCK) (MD Play Mode)



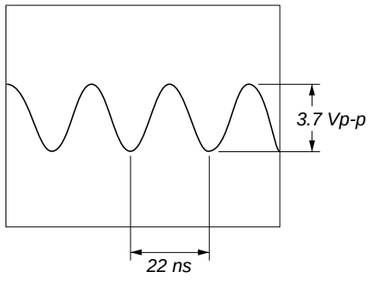
❼ IC301 ㉘ (XBCK) (MD Play Mode)



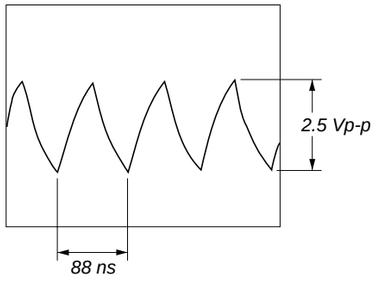
❽ IC301 ㉙ (FS256) (MD Play Mode)



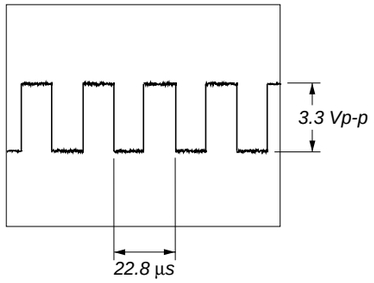
❾ IC304 ⑤ (MD Play Mode)



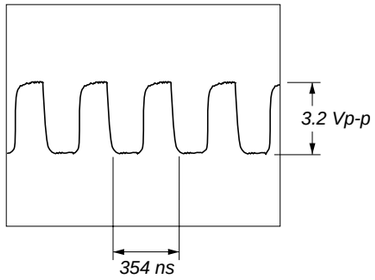
❿ IC101 ① (XTI) (MD Play Mode)



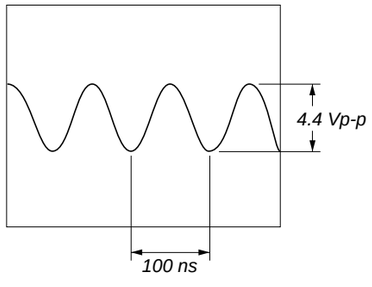
⓫ IC101 ④ (LRCK) (MD Play Mode)



⓬ IC101 ⑥ (BCK) (MD Play Mode)

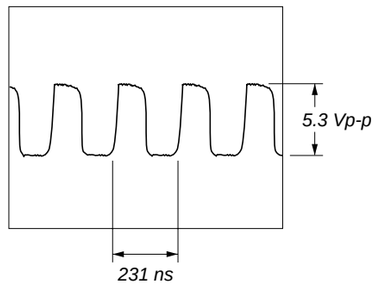


⓭ IC501 ㉜ (XTAL)

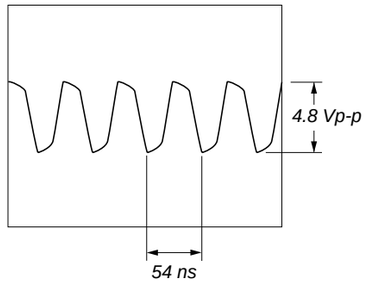


– MAIN Board –

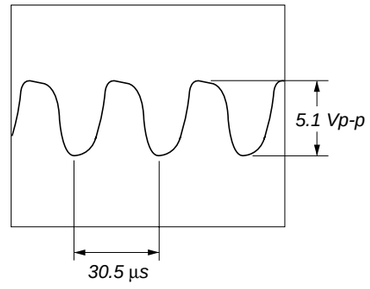
㉑ IC51 ④ (OSCO)



㉒ IC501 ⑫ (OSCOUT)

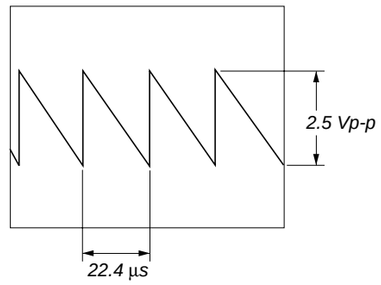


㉓ IC501 ⑯ (XOUT)



– KEY Board –

㉔ IC900 ㉞ (OSC)



4-17. IC PIN FUNCTION DESCRIPTION

- **SERVO BOARD IC301 CXD2662R**
  (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO PROCESSOR, EFM/ACIRC ENCODER/DECODER, SHOCK PROOF MEMORY CONTROLLER, ATRAC ENCODER/DECODER)

Pin No.	Pin Name	I/O	Description
1	MNT0 (FOK)	O	Focus OK signal output to the MD mechanism controller (IC501) "H" is output when focus is on ("L": NG)
2	MNT1 (SHOCK)	O	Track jump detection signal output to the MD mechanism controller (IC501)
3	MNT2 (XBUSY)	O	Busy monitor signal output to the MD mechanism controller (IC501)
4	MNT3 (SLOCK)	O	Spindle servo lock status monitor signal output to the MD mechanism controller (IC501)
5	SWDT	I	Writing serial data signal input from the MD mechanism controller (IC501)
6	SCLK	I	Serial data transfer clock signal input from the MD mechanism controller (IC501)
7	XLAT	I	Serial data latch pulse signal input from the MD mechanism controller (IC501)
8	SRDT	O (3)	Reading serial data signal output to the MD mechanism controller (IC501)
9	SENS	O (3)	Internal status (SENSE) output to the MD mechanism controller (IC501)
10	XRST	I	Reset signal input from the MD mechanism controller (IC501) "L": reset
11	SQSY	O	Subcode Q sync (SCOR) output to the MD mechanism controller (IC501) "L" is output every 13.3 msec Almost all, "H" is output
12	DQSY	O	Digital In U-bit CD format subcode Q sync (SCOR) output terminal "L" is output every 13.3 msec Almost all, "H" is output Not used (open)
13	RECP	I	Laser power selection signal input terminal "L": playback mode, "H": recording mode (fixed at "L" in this set)
14	XINT	O	Interrupt status output to the MD mechanism controller (IC501)
15	TX	O	Recording data output enable signal input terminal Writing data transmission timing input (Also serves as the magnetic head on/off output) Not used (fixed at "L")
16	OSCI	I	System clock signal (1024Fs=45 MHz) input from the oscillator circuit
17	OSCO	O	System clock signal (1024Fs=45 MHz) output terminal Not used (open)
18	XTSL	I	Input terminal for the system clock frequency setting "L": 45.1584 MHz, "H": 22.5792 MHz (fixed at "L" in this set)
19	DIN0	I	Digital audio signal input terminal when recording mode Not used (fixed at "L")
20	DIN1	I	Digital audio signal input terminal when recording mode Not used (fixed at "L")
21	DOUT	O	Digital audio signal output terminal when playback mode Not used
22	DADTAI	I	Recording data input terminal Not used (fixed at "L")
23	LRCKI	I	L/R sampling clock signal (44.1 kHz) input terminal Not used (fixed at "L")
24	XBCKI	I	Bit clock signal (2.8224 MHz) input terminal Not used (fixed at "L")
25	ADDT	I	Recording data input terminal Not used (fixed at "L")
26	DADT	O	Playback data output to the PCM1718E (IC101)
27	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the PCM1718E (IC101)
28	XBCK	O	Bit clock signal (2.8224 MHz) output to the PCM1718E (IC101)
29	FS256	O	Clock signal (11.2896 MHz) output to the PCM1718E (IC101)
30	DVDD	—	Power supply terminal (+3.3V) (digital system)
31 to 34	A03 to A00	O	Address signal output to the D-RAM (IC307)
35	A10	O	Address signal output to the external D-RAM Not used (open)
36 to 40	A04 to A08	O	Address signal output to the D-RAM (IC307)
41	A11	O	Address signal output to the external D-RAM Not used (open)
42	DVSS	—	Ground terminal (digital system)
43	XOE	O	Output enable signal output to the D-RAM (IC307) "L" active
44	XCAS	O	Column address strobe signal output to the D-RAM (IC307) "L" active
45	A09	O	Address signal output to the D-RAM (IC307)

Pin No.	Pin Name	I/O	Description
46	XRAS	O	Row address strobe signal output to the D-RAM (IC307) "L" active
47	XWE	O	Write enable signal output to the D-RAM (IC307) "L" active
48	D1	I/O	Two-way data bus with the D-RAM (IC307)
49	D0	I/O	
50	D2	I/O	
51	D3	I/O	
52	MVCI	I	Digital in PLL oscillation input from the external VCO Not used (fixed at "L")
53	ASYO	O	Playback EFM full-swing output terminal
54	ASYI	I (A)	Playback EFM asymmetry comparator voltage input terminal
55	AVDD	—	Power supply terminal (+3.3V) (analog system)
56	BIAS	I (A)	Playback EFM asymmetry circuit constant current input terminal
57	RFI	I (A)	Playback EFM RF signal input from the CXA2523AR (IC302)
58	AVSS	—	Ground terminal (analog system)
59	PCO	O (3)	Phase comparison output for master clock of the recording/playback EFM master PLL
60	FILI	I (A)	Filter input for master clock of the recording/playback master PLL
61	FILO	O (A)	Filter output for master clock of the recording/playback master PLL
62	CLTV	I (A)	Internal VCO control voltage input of the recording/playback master PLL
63	PEAK	I (A)	Light amount signal (RF/ABCD) peak hold input from the CXA2523AR (IC302)
64	BOTM	I (A)	Light amount signal (RF/ABCD) bottom hold input from the CXA2523AR (IC302)
65	ABCD	I (A)	Light amount signal (ABCD) input from the CXA2523AR (IC302)
66	FE	I (A)	Focus error signal input from the CXA2523AR (IC302)
67	AUX1	I (A)	Auxiliary signal (I_3 signal/temperature signal) input from the CXA2523AR (IC302)
68	VC	I (A)	Middle point voltage (+1.65V) input from the CXA2523AR (IC302)
69	ADIO	O (A)	Monitor output of the A/D converter input signal Not used (open)
70	AVDD	—	Power supply terminal (+3.3V) (analog system)
71	ADRT	I (A)	A/D converter operational range upper limit voltage input terminal (fixed at "H" in this set)
72	ADRB	I (A)	A/D converter operational range lower limit voltage input terminal (fixed at "L" in this set)
73	AVSS	—	Ground terminal (analog system)
74	SE	I (A)	Sled error signal input from the CXA2523AR (IC302)
75	TE	I (A)	Tracking error signal input from the CXA2523AR (IC302)
76	DCHG	I (A)	Connected to the +3.3V power supply
77	APC	I (A)	Error signal input for the laser automatic power control Not used (fixed at "L")
78	ADFG	I	ADIP duplex FM signal (22.05 kHz ± 1 kHz) input from the CXA2523AR (IC302)
79	F0CNT	O	Filter f0 control signal output terminal Not used (open)
80	XLRF	O	Serial data latch pulse signal output terminal Not used (open)
81	CKRF	O	Serial data transfer clock signal output terminal Not used (open)
82	DTRF	O	Writing serial data output terminal Not used (open)
83	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic power control
84	TEST0	O	Input terminal for the test Not used (open)
85	TRDR	O	Tracking servo drive PWM signal (–) output to the BH6518FS (IC303)
86	TFDR	O	Tracking servo drive PWM signal (+) output to the BH6518FS (IC303)
87	DVDD	—	Power supply terminal (+3.3V) (digital system)
88	FFDR	O	Focus servo drive PWM signal (+) output to the BH6518FS (IC303)
89	FRDR	O	Focus servo drive PWM signal (–) output to the BH6518FS (IC303)
90	FS4	O	Clock signal (176.4 kHz) output terminal (X'tal system) Not used (open)

Pin No.	Pin Name	I/O	Description
91	SRDR	O	Sled servo drive PWM signal (–) output to the BH6518FS (IC303)
92	SFDR	O	Sled servo drive PWM signal (+) output to the BH6518FS (IC303)
93	SPRD	O	Spindle servo drive PWM signal (–) output to the BH6518FS (IC303)
94	SPFD	O	Spindle servo drive PWM signal (+) output to the BH6518FS (IC303)
95	FGIN	I	Input terminal for the test (fixed at “L”)
96	TEST1	I	
97	TEST2	I	
98	TEST3	I	
99	DVSS	—	Ground terminal (digital system)
100	EFMO	O	EFM signal output terminal when recording mode Not used (open)

* I (A) for analog input, O (3) for 3-state output, and O (A) for analog output in the column I/O.

• **SERVO BOARD IC302 CXA2523AR (RF AMP, FOCUS/TRACKING ERROR AMP)**

Pin No.	Pin Name	I/O	Description
1	I	I	I-V converted RF signal I input from the optical pick-up block detector
2	J	I	I-V converted RF signal J input from the optical pick-up block detector
3	VC	O	Middle point voltage (+1.65V) generation output terminal
4 to 9	A to F	I	Signal input from the optical pick-up detector
10	PD	I	Light amount monitor input from the optical pick-up block laser diode
11	APC	O	Laser amplifier output terminal to the automatic power control circuit
12	APCREF	I	Reference voltage input terminal for setting laser power
13	GND	—	Ground terminal
14	TEMPI	I	Connected to the temperature sensor Not used (open)
15	TEMPR	O	Output terminal for a temperature sensor reference voltage Not used (open)
16	SWDT	I	Writing serial data input from the MD mechanism controller (IC501)
17	SCLK	I	Serial data transfer clock signal input from the MD mechanism controller (IC501)
18	XLAT	I	Serial data latch pulse signal input from the MD mechanism controller (IC501)
19	XSTBY	I	Standby signal input terminal "L": standby (fixed at "H" in this set)
20	F0CNT	I	Center frequency control voltage input terminal of internal circuit (BPF22, BPF3T, EQ) input terminal
21	VREF	O	Reference voltage output terminal Not used (open)
22	EQADJ	I	Center frequency setting terminal for the internal circuit (EQ)
23	3TADJ	I	Center frequency setting terminal for the internal circuit (BPF3T)
24	VCC	—	Power supply terminal (+3.3V)
25	WBLADJ	I	Center frequency setting terminal for the internal circuit (BPF22)
26	TE	O	Tracking error signal output to the CXD2662R (IC301)
27	CSLED	I	Connected to the external capacitor for low-pass filter of the sled error signal
28	SE	O	Sled error signal output to the CXD2662R (IC301)
29	ADFM	O	FM signal output of the ADIP
30	ADIN	I	Receives a ADIP FM signal in AC coupling
31	ADAGC	I	Connected to the external capacitor for ADIP AGC
32	ADFG	O	ADIP duplex signal (22.05 kHz ± 1 kHz) output to the CXD2662R (IC301)
33	AUX	O	Auxiliary signal (I_3 signal/temperature signal) output terminal Not used (open)
34	FE	O	Focus error signal output to the CXD2662R (IC301)
35	ABCD	O	Light amount signal (ABCD) output to the CXD2662R (IC301)
36	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to the CXD2662R (IC301)
37	PEAK	O	Light amount signal (RF/ABCD) peak hold output to the CXD2662R (IC301)
38	RF	O	Playback EFM RF signal output to the CXD2662R (IC301)
39	RFAGC	I	Connected to the external capacitor for RF auto gain control circuit
40	AGCI	I	Receives a RF signal in AC coupling
41	COMPO	O	User comparator output terminal Not used (open)
42	COMPP	I	User comparator input terminal Not used (fixed at "L")
43	ADDC	I	Connected to the external capacitor for cutting the low band of the ADIP amplifier
44	OPO	O	User operational amplifier output terminal Not used (open)
45	OPN	I	User operational amplifier inversion input terminal Not used (fixed at "L")
46	RFO	O	RF signal output
47	MORFI	I	Receives a MO RF signal in AC coupling
48	MORFO	O	MO RF signal output

• **SERVO BOARD IC501 CXP84340-231Q (MD MECHANISM CONTROLLER)**

Pin No.	Pin Name	I/O	Description
1 to 5	TIN3 to TIN7	I/O	Input of the 4×8 matrix test keys (“L” is always output, except in test mode) Not used (open)
6	LOAD	O	Loading motor control signal output to the motor driver (IC305) “H” active *1
7	EJECT	O	Loading motor control signal output to the motor driver (IC305) “H” active *1
8, 9	—	O	Not used (open)
10	MDMON	O	Power supply on/off control signal output of the MD mechanism deck section main power supply and loading motor drive (IC305) power supply “H”: power on
11	$\overline{\text{E-SW}}$	I	Inputs a disc loading completion detect switch detection signal “L”: When completed of a disc loading operation
12	AG-OK	O	Output of aging status in test mode “L”: under aging, “H”: aging completed Not used (open)
13	ADJ-OK	O	Output of status when aging completed in test mode “L”: aging NG, “H”: aging OK Not used (open)
14 to 17	—	O	Not used (open)
18	DFCTSEL	I	Select whether defect function is used for the CXD2662R (IC301) “L”: used this function , “H”: not used this function (fixed at “H” in this set)
19	DPLLSEL	I	Select whether double PLL function is used for the CXD2662R (IC301) “L”: used this function , “H”: not used this function (fixed at “H” in this set)
20	EMPHSEL	I	Select whether emphasis signal output from pin or unilink data “L”: outputs from both pin and unilink data, “H”: output from pin only (fixed at “H” in this set)
21	LOCK	O	Mini-disc lock detection signal output terminal Not used
22	—	O	Not used (open)
23	2M/$\overline{\text{4M}}$	I	Select whether D-RAM capacitance 2M bit or 4M bit “L”: 4M bit (external D-RAM) , “H”: 2M bit (internal D-RAM of CXD2652AR) (fixed at “L” in this set)
24, 25	—	O	Not used (open)
26	MNT0	I	Focus OK signal input from the CXD2662R (IC301) “H” is input when focus is on (“L”: NG)
27	MNT1	I	Track jump detection signal input from the CXD2662R (IC301)
28	MNT2	I	Busy monitor signal input from the CXD2662R (IC301)
29	MNT3	I	Spindle servo lock status monitor signal input from the CXD2662R (IC301)
30	$\overline{\text{RESET}}$	I	System reset signal input from the system controller (IC501), reset signal generator (IC602) and reset switch (S702) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
31	EXTAL	I	Main system clock input terminal (10 MHz)
32	XTAL	O	Main system clock output terminal (10 MHz)
33	VSS	—	Ground terminal
34	TX	O	Sub system clock output terminal (32.768 kHz) Not used (open)
35	TEX	I	Sub system clock input terminal (32.768 kHz) Not used (fixed at “L”)
36	AVSS	—	Ground terminal (for A/D converter)
37	AVREF	I	Reference voltage input terminal (+5V) (for A/D converter)
38	INIT	I	Initial reset signal input terminal (A/D input) (fixed at “H”)
39	TEMP	I	Temperature sensor (TH501) input terminal (A/D input)
40	ACNT	I	Select the number of load/eject aging times (A/D input) 0h – 54h (30 times), 55h – 0A9h (20 times), 0AAh – 0FFh (10 times)
41	DO-SEL	I	Select the digital output bits (A/D input)
42	EE-CS	O	Chip select signal output to the external EEPROM device Not used (open)
43	EE-CKO	O	Serial data transfer clock signal output to the external EEPROM device Not used (open)
44	EE-SIO	I/O	Two way data bus with the external EEPROM device Not used (open)
45	MD-SO	O	Writing serial data signal output to the CXD2662R (IC301) and CXA2523AR (IC302)

Pin No.	Pin Name	I/O	Description
46	LINKOFF	O	Unilink on/off control signal output for the SONY bus "L": link on, "H": link off
47	UNIREQ	O	Data request signal output terminal (for SONY bus) "H": request on Not used (open)
48	UNICKIO	I/O	Serial clock signal input from the system controller (IC501) or serial clock signal output to the SONY bus interface (IC505) and system controller (IC501) (for SONY bus)
49	UNISI	I	Serial data input from the SONY bus interface (IC505)
50	UNISO	O	Serial data output to the SONY bus interface (IC505)
51	MD-CKO	O	Serial data transfer clock signal output to the CXD2662R (IC301) and CXA2523AR (IC302)
52	MD-SI	I	Reading serial data signal input from the CXD2662R (IC301)
53	—	O	Not used (open)
54	SENS	I	Internal status (SENSE) input from the CXD2662R (IC301)
55	CC-XINT	I	Interrupt status input from the CXD2662R (IC301)
56	$\overline{\text{LIMIT-IN}}$	I	Detection input from the sled limit-in detect switch The optical pick-up is inner position when "L"
57	EJT-OK	I	Front panel open detection signal input terminal "L": eject possible
58	ERROR-PWM	O	PWM error monitor output terminal (C1and ATER is output when test mode) Not used (open)
59	$\overline{\text{MD-RST}}$	O	Reset signal output to the PCM1718E (IC101), CXD2662R (IC301) and BH6518FS (IC303) "L": reset
60	BU-IN	I	Battery detect signal input from the SONY bus interface (IC505) and battery check circuit "H": battery on
61	$\overline{\text{BUS-ON}}$	I	SONY bus on/off control signal input from the system controller (IC501) "L": bus on
62	SQSY	I	Subcode Q sync (SCOR) input from the CXD2662R (IC301) "L" is input every 13.3 msec Almost all, "H" is input
63	$\overline{\text{C-SW}}$	I	Inputs a disc loading start or a disc eject completion detect switch detection signal "L": When loading start or eject completed of a disc loading operation
64	MD-LAT	O	Serial data latch pulse signal output to the CXD2662R (IC301) and CXA2523AR (IC302)
65	MD-ON	O	Power supply on/off control signal output of the MD mechanism deck section main power supply "H": power on
66	DEEMP	O	De-emphasis on/off control signal output to the PCM1718E (IC101) "H": de-emphasis on
67	A-MUTE	O	Audio muting on/off control signal output
68	—	O	Not used (open)
69	TSTCKO	O	Output of clock signal for the test mode display Not used (open)
70	TSTSO	O	Output of data for the test mode display Not used (open)
71	$\overline{\text{TSTMOD}}$	I	Setting terminal for the test mode "L": test mode, "H": normal mode
72	VCC	—	Power supply terminal (+5V)
73	NC	I	Not used (fixed at "H")
74 to 77	TOUT0 to TOUT3	O	Output of the 4×8 matrix test keys Not used (open)
78 to 80	TIN0 to TIN2	I/O	Input of the 4×8 matrix test keys ("L" is always output, except in test mode) Not used (open)

• **MAIN BOARD IC501 MN101C49KTJ (US), MN101C49KTK (AEP, UK) (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Description
1	VREF–	I	Reference voltage (0V) input terminal (for A/D converter)
2	VSM	I	FM and AM signal meter voltage detection signal input from the FM/AM tuner unit (TU10) (A/D input)
3	NIL	I	Not used (fixed at "L")
4	KEYIN1	I	Key input terminal (A/D input) LSW902, LSW905 to LSW911 (LSW910 and LSW911 are AEP, UK models only), S902 to S905 (MENU, SOUND, ENTER, S SCROLL, D DISPLAY, LIST, AF, TA, ▶▶I ▶▶ SEEK +, I◀◀ ◀◀ SEEK –, DISC/PRESET +, DISC/PRESET –,)
5	KEYIN0	I	Key input terminal (A/D input) LSW901, LSW903, LSW904, LSW914 to LSW919, S906, S907 (OFF, SOURCE, MODE, 6, 5, 4, 3, 2, 1, D-BASS, MBP)
6	RCIN0	I	Rotary remote commander key input terminal (A/D input)
7	QUALITY	I	Noise level detection signal input at SEEK mode (A/D input)
8	MPTH	I	Multi-path detection signal input from the RDS decoder (IC51) (A/D input)
9	DSTSEL	I	Destination setting terminal (fixed at "L" in this set)
10	VREF+	I	Reference voltage (+5V) input terminal (for A/D converter)
11	VDD	—	Power supply terminal (+5V)
12	OSCOUT	O	Main system clock output terminal (18.432 MHz)
13	OSCIN	I	Main system clock input terminal (18.432 MHz)
14	VSS	—	Ground terminal
15	XIN	I	Sub system clock input terminal (32.768 kHz)
16	XOUT	O	Sub system clock output terminal (32.768 kHz)
17	MMOD	I	Selection signal of memory mode input terminal "L":single chip mode (fixed at "L")
18	LCDSO	O	Serial data output to the liquid crystal display driver (IC900)
19	LCDCE	O	Chip enable signal output to the liquid crystal display driver (IC900) "H" active
20	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC900)
21 to 23	NC	O	Not used (open)
24	$\overline{\text{SYSRST}}$	O	Reset signal output to the SONY bus interface (IC505) "L": reset
25	$\overline{\text{BUSON}}$	O	Bus on/off control signal output to the SONY bus interface (IC505) "L": bus on
26	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"
27	DAVN	I	Synchronized detection signal of RDS data block input from the RDS decoder (IC51) "H" active (AEP, UK models only)
28	BUIN	I	Battery detection signal input from the SONY bus interface (IC505) "L" is input at low voltage
29	SIRCS	I	SIRCS remote control signal input from the remote control receiver (IC971)
30, 31	NIL	I	Not used (fixed at "L")
32	NIH	I	Not used (fixed at "H")
33	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC602) and RESET switch (S702) "L": reset "L" is input for several 100 msec after power on, then it changes to "H"
34	$\overline{\text{NOSESW}}$	I	Front panel block remove/attach detection signal input from the nose detection switch (S701) "L": front panel is attached
35	BEEP	O	Beep sound drive signal output to the power amplifier (IC611)
36	NCO	O	Not used (open)
37	$\overline{\text{TEST IN}}$	I	Setting terminal for the test mode "L": test mode, Normally: fixed at "H"
38	$\overline{\text{ACC IN}}$	I	Accessory detection signal input "L": accessory on
39	NCO	O	Not used (open)
40	TELATT	I	Telephone detection signal input terminal At input of "H", the signal is attenuated by –20 dB
41	NIH	I	Not used (fixed at "H")

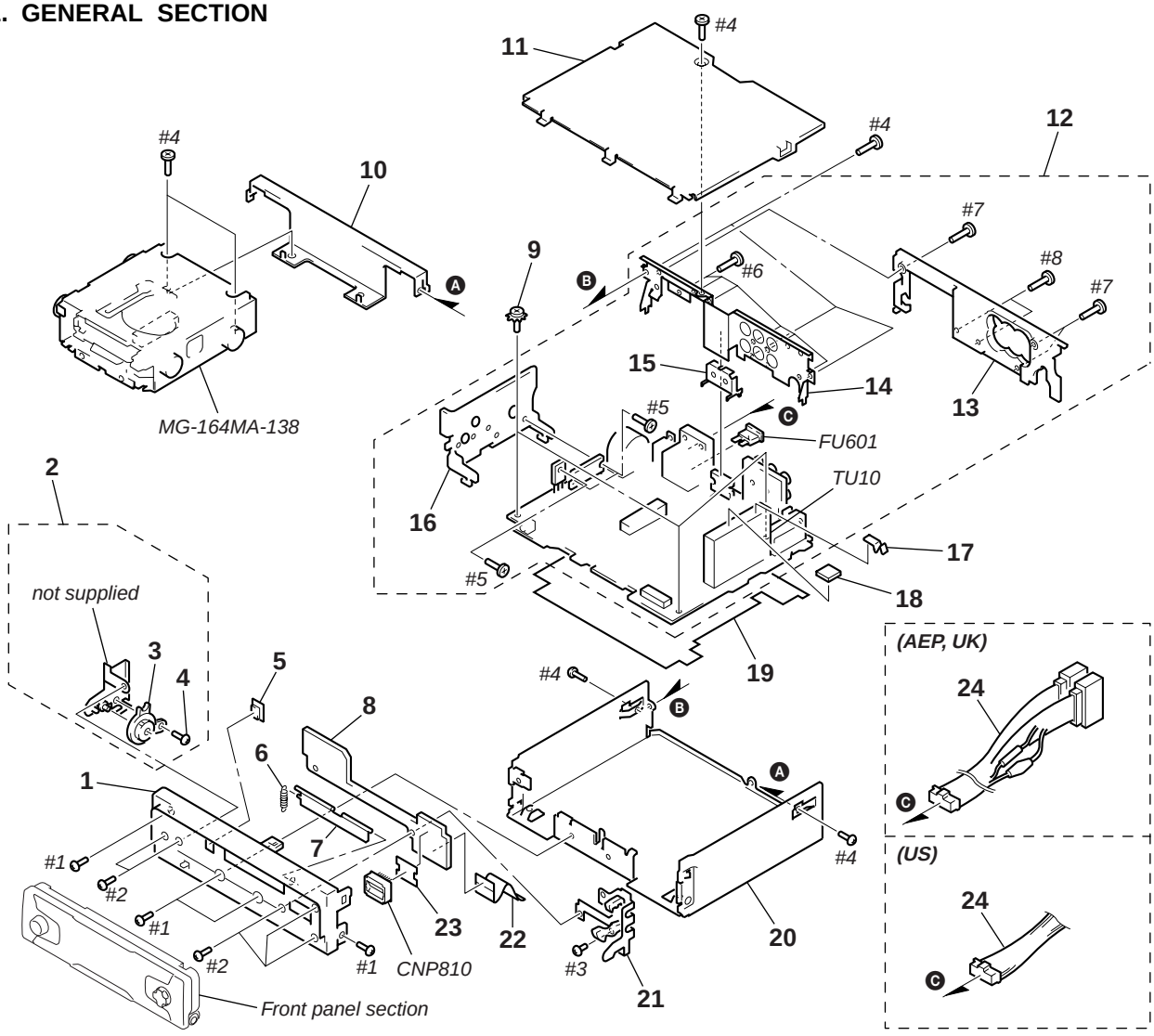
Pin No.	Pin Name	I/O	Description
42	UNISO	O	Serial data output to the SONY bus interface (IC505)
43	UNISI	I	Serial data input from the SONY bus interface (IC505)
44	UNICKO	O	Serial clock signal output to the MD mechanism controller (IC501) and SONY bus interface (IC505)
45	IIC SIO	I/O	Two-way data IIC bus with the FM/AM tuner unit (TU10), RDS decoder (IC51) (AEP, UK models only) and electrical volume (IC401)
46	NCO	O	Not used (open)
47	IIC CKO	O	IIC bus clock signal output to the FM/AM tuner unit (TU10), RDS decoder (IC51) (AEP, UK models only) and electrical volume (IC401)
48	NCO	O	Not used (open)
49	TUNON	O	Tuner system power supply on/off control signal output to the BA4908 (IC601) "H": tuner power on
50	PW ON	O	Main system power supply on/off control signal output to the BA4908 (IC601) "H": power on
51 to 65	NCO	O	Not used (open)
66	$\overline{\text{AMPATT}}$	O	Power amplifier muting on/off control signal output to the power amplifier (IC611) "L": muting on
67	AMPON	O	Standby on/off control signal output to the power amplifier (IC611) "L": standby mode, "H": ampifier on
68	NCO	O	Not used (open)
69	ATT	O	Audio line muting on/off control signal output "H": muting on
70	$\overline{\text{VOLATT}}$	O	Pre amplifier muting on/off control signal output to the electrical volume (IC401) "L": muting on
71 to 75	NCO	O	Not used (open)
76	COLSW	I	Setting terminal for the illumination color "L": 2 colors, "H": 1 color MDX-CA680: fixed at "L", MDX-CA680X: fixed at "H"
77	COLSEL	I	Setting terminal for the illumination color "L": amber, "H": green MDX-CA680: not used (fixed at "L"), MDX-CA680X: fixed at "H"
78	DIMSEL	I	Setting terminal for the dimmer "L": no dimmer, "H": dimmer in (fixed at "L" in this set)
79 to 85	NCO	O	Not used (open)
86	EEP SIO	I/O	Two-way data EEPROM bus with the FM/AM tuner unit (TU10)
87	EEP CKO	O	EEPROM bus clock signal output to the FM/AM tuner unit (TU10)
88	NCO	O	Not used (open)
89	FLASHW	I	Internal flash memory data write mode detection signal input terminal "L": data write mode Not used (fixed at "H")
90	NS_MASK	O	Discharge control signal output for the noise detection circuit "H": discharge
91	XKEYON	O	A/D converter power control signal output When the KEYACK (pin ㉖) that controls reference voltage power for key A/D conversion input is active, "L" is output from this terminal to enable the input
92	DOORIND	O	LED drive signal output of the MD disc slot illumination and ⏏ indicator (LED810, LSW810) "H": LED on "H" is output to turn on LED when front panel is opened
93	ILLON	O	Power on/off control signal output of the illumination LED and liquid crystal display driver (IC900) "H": power on
94	$\overline{\text{DOORSW}}$	I	Front panel open/close detection signal input "L" is input when the front panel is closed
95	DAVSS	—	Ground terminal (for D/A converter)
96, 97	RE_IN1, RE_IN0	I	Dial pulse input of the rotary encoder (RE901) (for VOLUME control)
98	RCIN1	I	Rotary remote commander shift key input terminal "L": shift key on
99	NIL	I	Not used (fixed at "L")
100	DAVCC	—	Power supply terminal (+5V) (for D/A converter)

SECTION 5
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

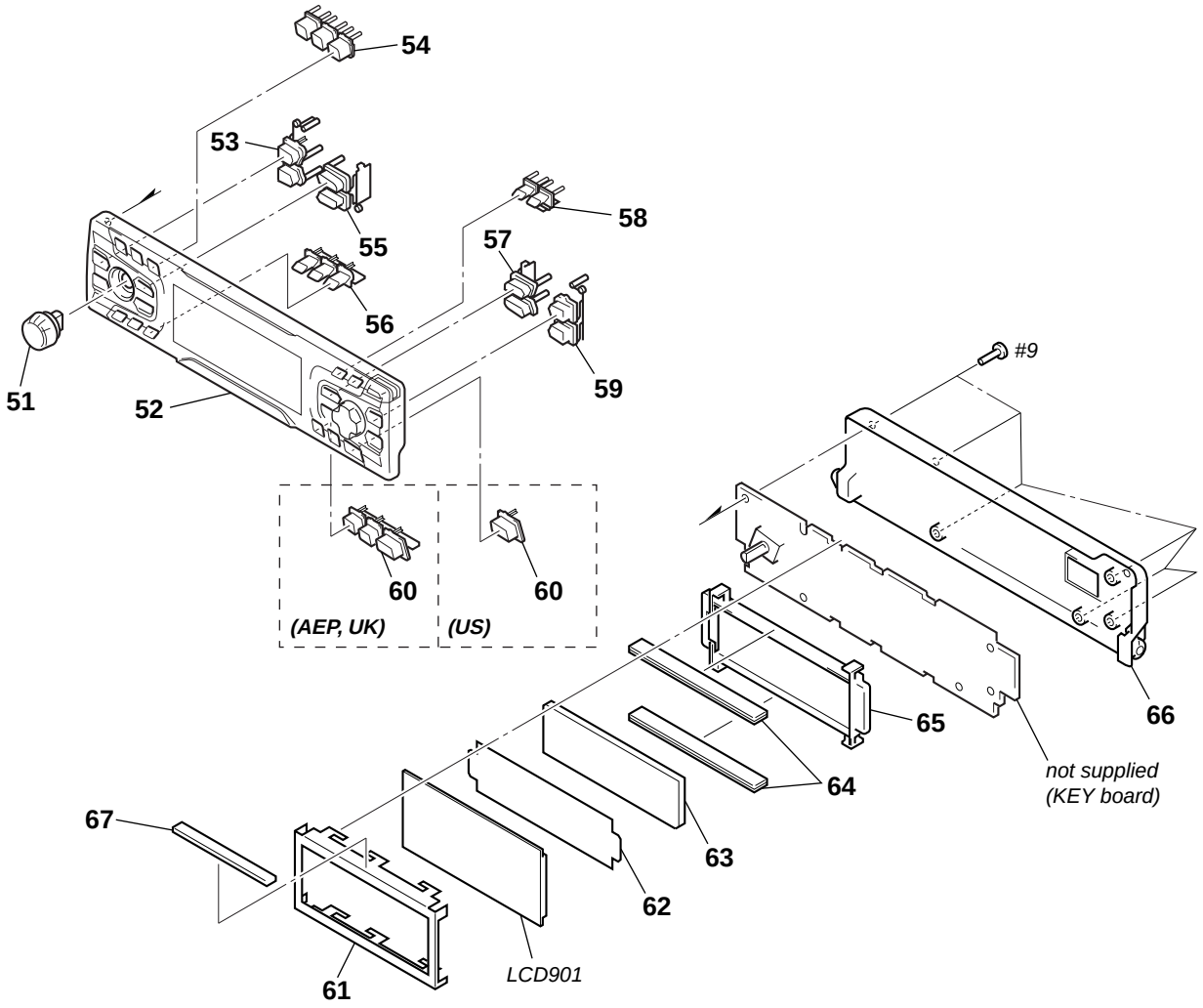
5-1. GENERAL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3378-458-1	PANEL ASSY, SUB	
2	X-3376-699-1	GEAR ASSY	
3	3-030-909-01	DAMPER, OIL	
4	3-713-786-51	SCREW +P 2X3	
5	3-040-990-01	BUTTON (EJECT) (⏏)	
6	3-034-086-01	SPRING (DOOR)	
7	3-033-750-01	DOOR (MD)	
* 8	1-680-042-11	SUB BOARD	
9	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 10	3-041-017-01	BRACKET (MD)	
* 11	3-223-782-01	COVER	
* 12	A-3283-058-A	MAIN BOARD, COMPLETE (CA680X: US)	
* 12	A-3283-061-A	MAIN BOARD, COMPLETE (CA680)	
* 12	A-3283-065-A	MAIN BOARD, COMPLETE (CA680X: AEP, UK)	
* 13	3-223-780-11	HEAT SINK	
* 14	3-223-783-01	CHASSIS (BACK)	

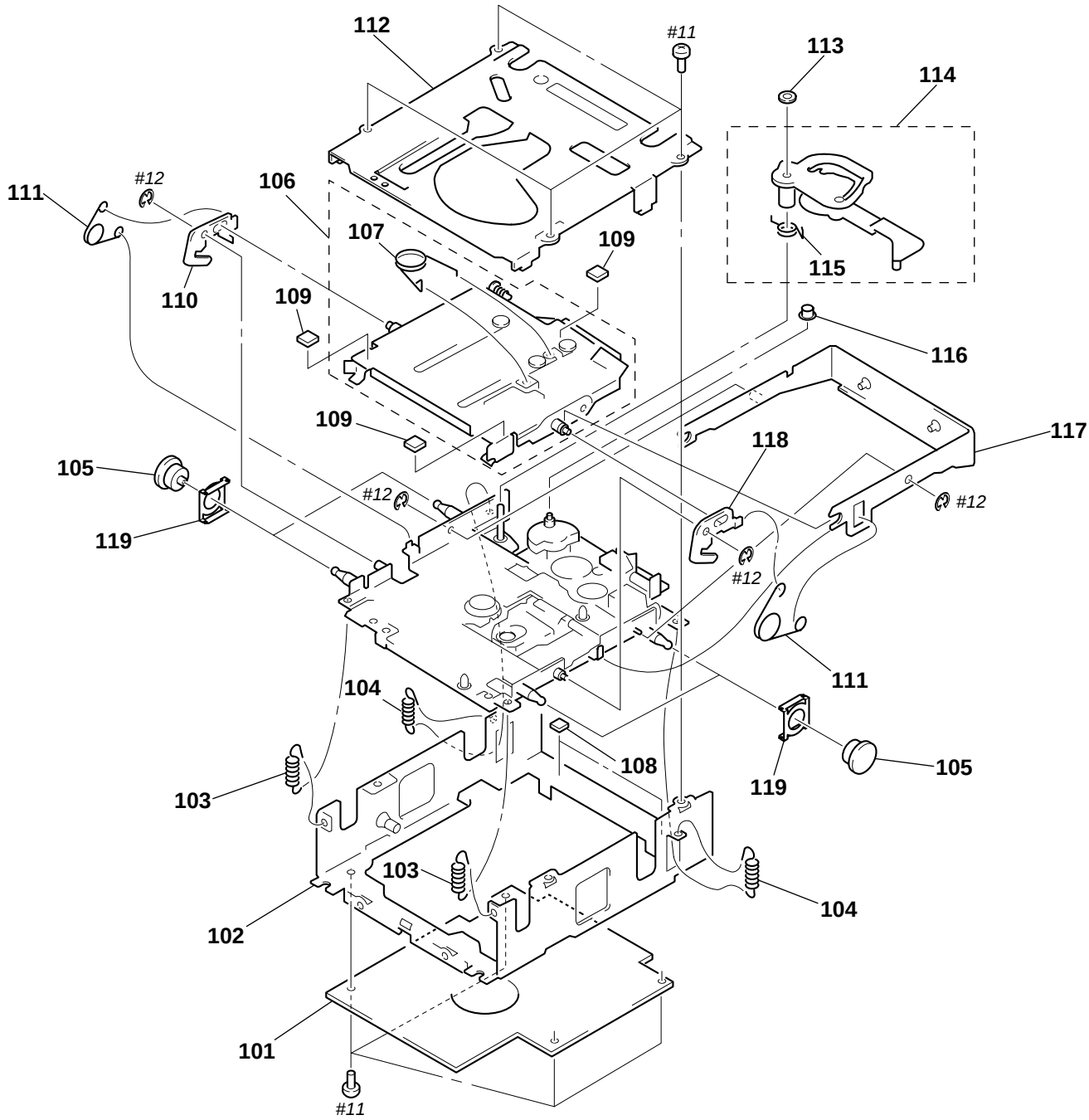
Ref. No.	Part No.	Description	Remark
* 15	3-040-998-01	BRACKET (IC)	
* 16	3-041-011-01	HEAT SINK (REG)	
* 17	3-045-878-01	PLATE (TU), GROUND	
* 18	3-045-877-01	CUSHION (TU)	
* 19	3-224-755-01	SHEET, INSULATING	
* 20	3-223-781-11	CHASSIS	
21	X-3377-621-1	LOCK ASSY	
22	1-792-195-11	CABLE, FLEXIBLE FLAT (14 CORE)	
* 23	3-039-443-11	SHEET (CONNECTOR)	
24	1-776-207-82	CORD (WITH CONNECTOR) (POWER) (US)	
24	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	(AEP, UK)
CNP810	1-794-064-11	SOCKET, CONNECTOR 14P	
FU601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
TU10	A-3282-061-A	TUNER UNIT (TUX-020)	

5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-3380-080-1	KNOB (VOL) ASSY (CA680X)	
51	X-3380-081-1	KNOB (VOL) ASSY (CA680)	
52	X-3380-127-1	PANEL (SV) ASSY, FRONT (CA680X: US)	
52	X-3380-128-1	PANEL (SV) ASSY, FRONT (CA680)	
52	X-3380-129-1	PANEL (SV) ASSY, FRONT (CA680X: AEP, UK)	
53	3-223-752-21	BUTTON (DSO/EQ7) (MBP. D-BASS)	
54	3-223-750-01	BUTTON (1-3) (1. 2. 3)	
55	3-223-753-01	BUTTON (SOURCE/MODE)	
56	3-223-751-01	BUTTON (4-6) (4. 5. 6)	
57	3-223-791-01	BUTTON (MENU/SOUND)	
58	3-223-789-01	BUTTON (DSPL/SCRL) (D. S)	
59	3-223-790-01	BUTTON (LIST/ENTER)	
60	3-223-792-01	BUTTON (AF/TA/OFF) (AEP, UK)	
60	3-223-792-11	BUTTON (AF/TA/OFF) (OFF) (US)	
* 61	3-223-799-01	PLATE (LCD), GROUND	
* 62	3-223-800-01	ILLUMINATOR (LCD)	
* 63	3-223-797-01	PLATE (LCD), LIGHT GUIDE	
64	1-694-780-11	CONDUCTIVE BOARD, CONNECTION	
* 65	3-223-798-01	HOLDER (LCD)	
66	X-3380-079-1	PANEL ASSY, FRONT BACK	
67	3-231-770-01	SPACER (WINDOW)	
LCD901	1-804-295-11	DISPLAY PANEL, LIQUID CRYSTAL (CA680)	
LCD901	1-804-295-21	DISPLAY PANEL, LIQUID CRYSTAL (CA680X)	

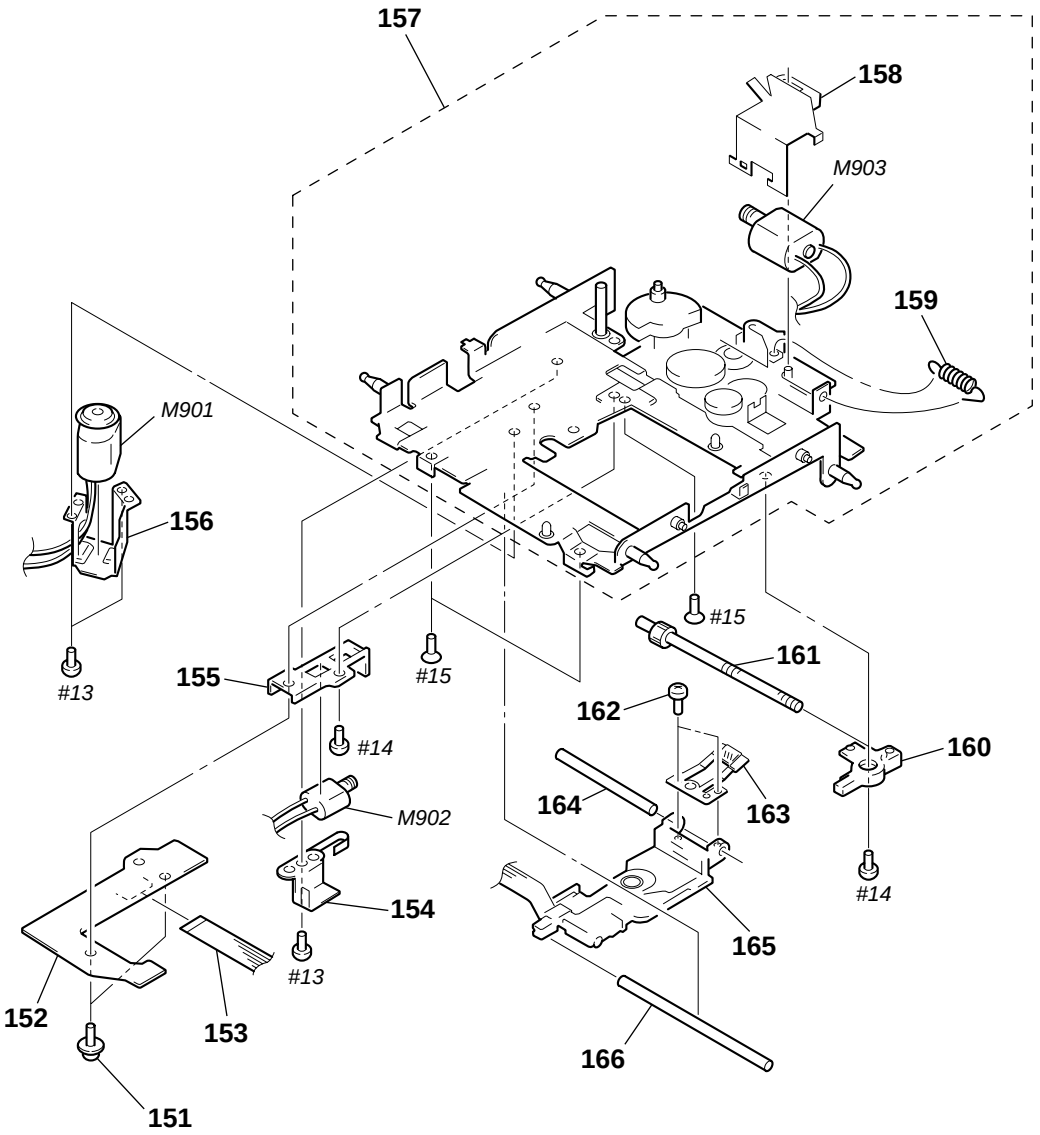
5-3. MECHANISM DECK SECTION-1 (MG-164MA-138)



Ref. No.	Part No.	Description	Remark
* 101	A-3326-729-A	SERVO BOARD, COMPLETE	
* 102	X-3379-367-1	CHASSIS ASSY, MD	
103	3-032-714-01	SPRING (FLOAT F), TENSION	
104	3-921-111-01	SPRING (FLOAT B), TENSION	
105	3-931-897-61	DAMPER (T)	
* 106	X-3376-796-1	HOLDER ASSY	
107	3-032-682-01	SPRING (HOLDER)	
* 108	3-034-301-01	CUSHION (EJ2)	
* 109	3-034-302-01	CUSHION (EJ3)	
* 110	3-032-712-01	LEVER (LOCK R)	

Ref. No.	Part No.	Description	Remark
111	3-919-281-01	SPRING (CHUCKING)	
* 112	X-3379-368-1	COVER ASSY, MD	
113	3-035-932-01	WASHER, STOPPER	
* 114	X-3379-362-1	LEVER (LE23) ASSY	
115	3-032-707-01	SPRING (LEVER LE)	
116	3-925-034-01	ROLLER (GEAR E)	
* 117	X-3376-798-1	ARM ASSY, CHUCKING	
* 118	3-032-711-01	LEVER (LOCK L)	
* 119	3-220-096-01	BRACKET (DAMPER)	

5-4. MECHANISM DECK SECTION-2 (MG-164MA-138)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	2-626-617-01	SCREW (2X8)	
152	A-3326-727-A	SENSOR BOARD, COMPLETE	
153	1-757-311-11	CABLE, FLEXIBLE FLAT (11 CORE)	
154	3-919-283-01	BRACKET (SL)	
* 155	3-032-704-01	BASE (SL)	
156	3-919-297-01	BRACKET (SP)	
157	A-3315-218-A	CHASSIS (OP) ASSY	
158	3-032-660-01	BRACKET (LO)	
159	3-032-669-01	SPRING (RACK), TENSION	
* 160	3-032-705-01	BEARING (SL)	

Ref. No.	Part No.	Description	Remark
161	X-3373-213-1	SCREW ASSY, FEED	
162	3-939-590-07	SCREW (IB LOCK)	
163	3-010-091-01	SPRING (SL FEED)	
164	3-919-293-01	SHAFT (OPT S), GUIDE	
⚠165	8-583-065-03	OPTICAL PICK-UP KMS-241C/J1RP	
166	3-920-537-01	SHAFT (OPT L), GUIDE	
M901	A-3301-407-A	MOTOR ASSY, SP (SPINDLE)	
M902	A-3291-190-A	MOTOR ASSY, SL (SLED)	
M903	X-3379-451-1	MOTOR ASSY, LO (LOADING)	

SECTION 6
ELECTRICAL PARTS LIST

KEY

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
		KEY BOARD	
		**********	
	1-694-780-11	CONDUCTIVE BOARD, CONNECTION	
*	3-223-797-01	PLATE (LCD), LIGHT GUIDE	
*	3-223-798-01	HOLDER (LCD)	
*	3-223-799-01	PLATE (LCD), GROUND	
*	3-223-800-01	ILLUMINATOR (LCD)	
	3-231-770-01	SPACER (WINDOW)	
		< CAPACITOR >	
C952	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C953	1-115-412-11	CERAMIC CHIP 680PF 5%	25V
C956	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V
C961	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C962	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C971	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
		< CONNECTOR >	
CN901	1-794-065-22	PLUG, CONNECTOR 14P	
		< DIODE >	
D902	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D903	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D904	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D906	8-719-056-93	DIODE UDZ-TE-17-18B	
D908	8-719-976-99	DIODE DTZ5.1B	
D971	8-719-056-82	DIODE UDZ-TE-17-6.2B	
		< IC >	
IC900	8-759-826-21	IC LC75874W	
IC971	8-749-012-25	IC RS-170-TU	
		< LIQUID CRYSTAL DISPLAY >	
LCD901	1-804-295-11	DISPLAY PANEL, LIQUID CRYSTAL (CA680)	
LCD901	1-804-295-21	DISPLAY PANEL, LIQUID CRYSTAL (CA680X)	
		< LED >	
LED900	8-719-061-16	LED CL-190SR-CD-T (KEY ILLUMINATION)	(CA680X)
LED900	8-719-082-91	LED CL-165Y/FG-D-T (KEY ILLUMINATION)	(CA680)
LED901	8-719-061-16	LED CL-190SR-CD-T (KEY ILLUMINATION)	(CA680X)
LED901	8-719-082-91	LED CL-165Y/FG-D-T (KEY ILLUMINATION)	(CA680)
LED902	8-719-082-80	LED LOM670 (MBP) (US)	
LED902	8-719-082-81	LED LBM676 (MBP) (AEP, UK)	
LED903	8-719-082-80	LED LOM670 (D-BASS) (US)	
LED903	8-719-082-81	LED LBM676 (D-BASS) (AEP, UK)	
LED905	8-719-078-19	LED LWA673-R1S2*1 (LCD BACK LIGHT)	
LED906	8-719-078-19	LED LWA673-R1S2*1 (LCD BACK LIGHT)	
LED909	8-719-078-19	LED LWA673-R1S2*1 (LCD BACK LIGHT)	
LED910	8-719-078-19	LED LWA673-R1S2*1 (LCD BACK LIGHT)	
LED913	8-719-061-16	LED CL-190SR-CD-T (KEY ILLUMINATION)	(CA680X)
LED913	8-719-082-91	LED CL-165Y/FG-D-T (KEY ILLUMINATION)	(CA680)
LED914	8-719-061-16	LED CL-190SR-CD-T (KEY ILLUMINATION)	(CA680X)
LED914	8-719-082-91	LED CL-165Y/FG-D-T (KEY ILLUMINATION)	(CA680)
		< SWITCH >	
LSW901	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (OFF)	(CA680X)
LSW901	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (OFF)	(CA680)
LSW902	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (MENU)	(CA680X)
LSW902	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (MENU)	(CA680)
LSW903	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)	(CA680X)
LSW903	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)	(CA680)
LSW904	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (MODE)	(CA680X)
LSW904	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (MODE)	(CA680X)
LSW905	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (SOUND)	(CA680X)
LSW905	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (SOUND)	(CA680X)
LSW906	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (ENTER)	(CA680X)
LSW906	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (ENTER)	(CA680)

KEY

Ref. No.	Part No.	Description			Remark
LSW907	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (S, SCROLL) (CA680X)			
LSW907	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (S, SCROLL) (CA680X)			
LSW908	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (D, DISPLAY) (CA680X)			
LSW908	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (D, DISPLAY) (CA680X)			
LSW909	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (LIST) (CA680X)			
LSW909	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (LIST) (CA680)			
LSW910	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (AF) (CA680X: AEP, UK)			
LSW910	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (AF) (CA680)			
LSW911	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (TA) (CA680X: AEP, UK)			
LSW911	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (TA) (CA680)			
LSW914	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (6) (CA680X)			
LSW914	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (6) (CA680X)			
LSW915	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (5) (CA680X)			
LSW915	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (5) (CA680X)			
LSW916	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (4) (CA680X)			
LSW916	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (4) (CA680X)			
LSW917	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (3) (CA680X)			
LSW917	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (3) (CA680X)			
LSW918	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (2) (CA680X)			
LSW918	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (2) (CA680X)			
LSW919	1-771-476-11	SWITCH, KEY BOARD (WITH LED) (1) (CA680X)			
LSW919	1-786-112-11	SWITCH, KEY BOARD (WITH LED) (1) (CA680X)			
		< TRANSISTOR >			
Q901	8-729-904-75	TRANSISTOR	DTD114EK (CA680X)		
Q902	8-729-904-75	TRANSISTOR	DTD114EK (CA680X)		
		< RESISTOR >			
R902	1-216-819-11	METAL CHIP	680	5%	1/16W
R903	1-216-819-11	METAL CHIP	680	5%	1/16W
R904	1-216-819-11	METAL CHIP	680	5%	1/16W
R905	1-216-821-11	METAL CHIP	1K	5%	1/16W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R907	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R908	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R909	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R910	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R911	1-216-864-11	SHORT	0 (AEP, UK)		

Ref. No.	Part No.	Description			Remark
R912	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (AEP, UK)
R913	1-216-833-11	METAL CHIP	10K	5%	1/16W (AEP, UK)
R914	1-216-819-11	METAL CHIP	680	5%	1/16W
R915	1-216-819-11	METAL CHIP	680	5%	1/16W
R916	1-216-821-11	METAL CHIP	1K	5%	1/16W
R917	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R918	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R919	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R920	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R921	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R922	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R923	1-216-833-11	METAL CHIP	10K	5%	1/16W
R924	1-216-037-00	METAL CHIP	330	5%	1/10W
R925	1-216-864-11	SHORT	0		(CA680X)
R926	1-216-819-11	METAL CHIP	680	5%	1/16W
R928	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680X)
R928	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R929	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R930	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680X)
R930	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R931	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R932	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680X)
R932	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R933	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R934	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680X)
R934	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R935	1-216-025-11	RES-CHIP	100	5%	1/10W (CA680)
R936	1-216-031-00	METAL CHIP	180	5%	1/10W
R937	1-216-031-00	METAL CHIP	180	5%	1/10W (CA680)
R938	1-216-809-11	METAL CHIP	100	5%	1/16W (US)
R942	1-216-037-00	METAL CHIP	330	5%	1/10W
R943	1-216-031-00	METAL CHIP	180	5%	1/10W
R944	1-216-029-00	METAL CHIP	150	5%	1/10W
R945	1-216-029-00	METAL CHIP	150	5%	1/10W
R946	1-216-031-00	METAL CHIP	180	5%	1/10W (CA680X)
R946	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R948	1-216-029-00	METAL CHIP	150	5%	1/10W
R950	1-216-029-00	METAL CHIP	150	5%	1/10W
R952	1-216-864-11	SHORT	0		
R954	1-216-809-11	METAL CHIP	100	5%	1/16W
R955	1-216-809-11	METAL CHIP	100	5%	1/16W
R956	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R957	1-216-841-11	METAL CHIP	47K	5%	1/16W
R958	1-216-031-00	METAL CHIP	180	5%	1/10W
R959	1-216-031-00	METAL CHIP	180	5%	1/10W
R960	1-216-857-11	METAL CHIP	1M	5%	1/16W
R961	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R962	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R963	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R966	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R967	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R968	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R969	1-216-027-00	METAL CHIP	120	5%	1/10W
R971	1-216-027-00	METAL CHIP	120	5%	1/10W
R972	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R973	1-216-809-11	METAL CHIP	100	5%	1/16W (US)
R978	1-216-031-00	METAL CHIP	180	5%	1/10W (CA680X)
R978	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R979	1-216-029-00	METAL CHIP	150	5%	1/10W (CA680)
R980	1-216-027-00	METAL CHIP	120	5%	1/10W
R981	1-216-027-00	METAL CHIP	120	5%	1/10W (CA680)
R982	1-216-027-00	METAL CHIP	120	5%	1/10W
R983	1-216-027-00	METAL CHIP	120	5%	1/10W (CA680)
R984	1-216-027-00	METAL CHIP	120	5%	1/10W
R985	1-216-027-00	METAL CHIP	120	5%	1/10W (CA680)
R986	1-216-027-00	METAL CHIP	120	5%	1/10W
R987	1-216-027-00	METAL CHIP	120	5%	1/10W (CA680)
		< ROTARY ENCODER >			
RE901	1-476-507-11	ENCODER, ROTARY (VOLUME CONTROLL)			
		< SWITCH >			
S902	1-786-175-21	SWITCH, TACTILE (WITH LED) (▶▶I ▶▶, SEEK +)			
S903	1-786-175-21	SWITCH, TACTILE (WITH LED) (I◀◀ ◀◀, SEEK –)			
S904	1-786-175-21	SWITCH, TACTILE (WITH LED) (DISC/PRESET +)			
S905	1-786-175-21	SWITCH, TACTILE (WITH LED) (DISC/PRESET –)			
S906	1-786-175-21	SWITCH, TACTILE (WITH LED) (D-BASS)			
S907	1-786-175-21	SWITCH, TACTILE (WITH LED) (MBP)			
**********					
*	A-3283-058-A	MAIN BOARD, COMPLETE (CA680X: US)			
*	A-3283-061-A	MAIN BOARD, COMPLETE (CA680)			
*	A-3283-065-A	MAIN BOARD, COMPLETE (CA680X: AEP, UK)			
		**********			
*	3-040-998-01	BRACKET (IC)			
*	3-041-011-01	HEAT SINK (REG)			
*	3-223-780-11	HEAT SINK			

Ref. No.	Part No.	Description			Remark
*	3-223-783-01	CHASSIS (BACK)			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
	7-685-797-09	SCREW +PTT 2.6X16 (S)			
		< CAPACITOR >			
C11	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C13	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (US)
C14	1-104-665-11	ELECT	100uF	20%	10V
C15	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C16	1-124-589-11	ELECT	47uF	20%	16V
C17	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C19	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C21	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C22	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C23	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C24	1-164-156-11	CERAMIC CHIP	0.1uF		25V (AEP, UK)
C25	1-164-315-11	CERAMIC CHIP	470PF	5%	50V (AEP, UK)
C26	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V (AEP, UK)
C27	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (AEP, UK)
C28	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V (AEP, UK)
C29	1-164-156-11	CERAMIC CHIP	0.1uF		25V (AEP, UK)
C31	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C32	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C33	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C34	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C41	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C42	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C51	1-124-589-11	ELECT	47uF	20%	16V (AEP, UK)
C52	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C53	1-164-315-11	CERAMIC CHIP	470PF	5%	50V (AEP, UK)
C54	1-162-921-11	CERAMIC CHIP	33PF	5%	50V (AEP, UK)
C55	1-162-920-11	CERAMIC CHIP	27PF	5%	50V (AEP, UK)
C56	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C57	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C58	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C59	1-162-959-11	CERAMIC CHIP	330PF	5%	50V (AEP, UK)
C61	1-164-505-11	CERAMIC CHIP	2.2uF		16V (AEP, UK)
C62	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (AEP, UK)

MAIN

Ref. No.	Part No.	Description			Remark
C63	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (AEP, UK)
C302	1-124-233-11	ELECT	10uF	20%	16V
C305	1-124-589-11	ELECT	47uF	20%	16V
C307	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C309	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C331	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C332	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C333	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C401	1-124-589-11	ELECT	47uF	20%	16V
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C403	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C404	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C405	1-126-160-11	ELECT	1uF	20%	50V
C407	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C411	1-126-160-11	ELECT	1uF	20%	50V
C412	1-126-160-11	ELECT	1uF	20%	50V
C413	1-126-160-11	ELECT	1uF	20%	50V
C414	1-126-160-11	ELECT	1uF	20%	50V
C415	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C416	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C421	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C422	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C431	1-124-233-11	ELECT	10uF	20%	16V
C433	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C435	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C441	1-124-233-11	ELECT	10uF	20%	16V
C442	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C445	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C451	1-124-233-11	ELECT	10uF	20%	16V
C453	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C455	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C456	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C461	1-124-233-11	ELECT	10uF	20%	16V
C463	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C465	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C471	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C474	1-124-233-11	ELECT	10uF	20%	16V
C475	1-107-906-11	ELECT	10uF	20%	16V
C476	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C477	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C479	1-124-589-11	ELECT	47uF	20%	16V
C480	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C484	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V (US)
C501	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (AEP, UK)
C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C505	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C506	1-162-916-11	CERAMIC CHIP	10PF	0.5PF	50V (AEP, UK)
C506	1-162-915-11	CERAMIC CHIP	12PF	5%	50V (US)
C507	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C508	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C511	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C512	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C541	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C551	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C553	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C561	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C562	1-126-935-11	ELECT	470uF	20%	16V
C601	1-126-768-11	ELECT	2200uF	20%	16V
C602	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C611	1-107-906-11	ELECT	10uF	20%	16V
C612	1-107-906-11	ELECT	10uF	20%	16V
C613	1-107-906-11	ELECT	10uF	20%	16V
C614	1-107-906-11	ELECT	10uF	20%	16V
C617	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C618	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C621	1-104-665-11	ELECT	100uF	20%	10V
C622	1-125-710-11	DOUBLE LAYER	0.1F		5.5V
C631	1-126-160-11	ELECT	1uF	20%	50V
C651	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C653	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C662	1-107-906-11	ELECT	10uF	20%	16V
C663	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C682	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C714	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN601	1-774-701-11	PIN, CONNECTOR 16P			
CN701	1-784-456-11	CONNECTOR, FFC/FPC 14P			
CNJ600	1-580-907-31	PLUG, CONNECTOR (BUS CONTROLL IN)			
CNP301	1-815-260-11	CONNECTOR, BOAR TO BOARD 30P			
		< DIODE >			
D1	8-719-073-01	DIODE	MA111- (K8).S0		
D21	8-719-073-01	DIODE	MA111- (K8).S0		
D22	8-719-073-01	DIODE	MA111- (K8).S0		
D23	8-719-976-99	DIODE	DTZ5.1B (AEP, UK)		
D301	8-719-400-20	DIODE	MA152WA		
D331	8-719-056-83	DIODE	UDZ-TE-17-6.8B		
D333	8-719-158-15	DIODE	RD5.6SB		
D471	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D472	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D473	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D474	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D475	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D476	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D477	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D478	8-719-079-97	DIODE	CRZ22 (TE85L.SONY)		
D479	8-719-073-01	DIODE	MA111- (K8).S0		
D480	8-719-158-15	DIODE	RD5.6SB		
D502	8-719-400-18	DIODE	MA152WK		
D552	8-719-422-64	DIODE	MA8062-M		
D553	8-719-056-93	DIODE	UDZ-TE-17-18B		
D554	8-719-072-70	DIODE	MA2ZD14001S0		
D555	8-719-056-93	DIODE	UDZ-TE-17-18B		
D558	8-719-801-78	DIODE	1SS184		
D560	8-719-073-01	DIODE	MA111- (K8).S0		
D601	8-719-049-38	DIODE	1N5404TU		
D609	8-719-056-83	DIODE	UDZ-TE-17-6.8B		
D610	8-719-056-65	DIODE	1SS372-TE85L		

MAIN

Ref. No.	Part No.	Description	Remark
D612	8-719-053-18	DIODE 1SR154-400TE-25	
D613	8-719-053-18	DIODE 1SR154-400TE-25	
D614	8-719-053-18	DIODE 1SR154-400TE-25	
D621	8-719-067-56	DIODE MA112-TX	
D665	8-719-820-05	DIODE 1SS181	
D701	8-719-978-69	DIODE DTZ-TT11-16B	
D703	8-719-056-93	DIODE UDZ-TE-17-18B	
D710	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D711	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D712	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D713	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D714	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D715	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D716	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D717	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D718	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D719	8-719-056-83	DIODE UDZ-TE-17-6.8B	
		< FUSE >	
FU601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
		< IC >	
IC20	8-759-909-71	IC BA4558F-E2 (AEP, UK)	
IC51	8-759-492-59	IC SAA6588T-118 (AEP, UK)	
IC401	8-759-653-27	IC TDA7402TR	
IC501	8-759-830-31	IC MN101C49KTJ (US)	
IC501	8-759-830-32	IC MN101C49KTK (AEP, UK)	
IC505	8-759-449-89	IC BA8270F-E2	
IC601	8-759-661-47	IC BA4908-V3	
IC602	8-759-682-69	IC XC61AN4302MR	
IC611	8-759-827-14	IC TA8268AH	
		< JACK >	
J10	1-815-185-11	JACK (FM/AM ANTENNA IN))	
J561	1-566-822-41	JACK (REMOTE IN)	
		< SHORT >	
JC7	1-216-296-11	SHORT 0	
JC10	1-216-296-11	SHORT 0	
JC11	1-216-296-11	SHORT 0 (AEP, UK)	
JC12	1-216-296-11	SHORT 0	
JC13	1-216-296-11	SHORT 0	
JC14	1-216-296-11	SHORT 0	
JC15	1-216-296-11	SHORT 0	
JC16	1-216-296-11	SHORT 0	
JC17	1-216-296-11	SHORT 0	
JC18	1-216-296-11	SHORT 0	
JC19	1-216-296-11	SHORT 0	
JC21	1-216-296-11	SHORT 0	
JC22	1-216-296-11	SHORT 0	
JC23	1-216-296-11	SHORT 0	
JC24	1-216-864-11	SHORT 0	
JC25	1-216-296-11	SHORT 0	
JC26	1-216-296-11	SHORT 0	
JC27	1-216-296-11	SHORT 0	
JC28	1-216-296-11	SHORT 0	
JC29	1-216-296-11	SHORT 0	
JC30	1-216-864-11	SHORT 0	
JC33	1-216-296-11	SHORT 0	
JC34	1-216-296-11	SHORT 0	
JC35	1-216-296-11	SHORT 0	
JC37	1-216-296-11	SHORT 0	
JC41	1-216-296-11	SHORT 0 (AEP, UK)	
JC42	1-216-296-11	SHORT 0 (AEP, UK)	
JC43	1-216-296-11	SHORT 0 (AEP, UK)	
JC44	1-216-296-11	SHORT 0	
JC45	1-216-296-11	SHORT 0	
JC47	1-216-296-11	SHORT 0	
JC48	1-216-864-11	SHORT 0	
JC49	1-216-296-11	SHORT 0	
JC50	1-216-864-11	SHORT 0	
JC51	1-216-296-11	SHORT 0 (AEP, UK)	
JC52	1-216-296-11	SHORT 0 (AEP, UK)	
JC53	1-216-296-11	SHORT 0	
JC101	1-216-295-11	SHORT 0	
JC104	1-216-864-11	SHORT 0 (AEP, UK)	
JC105	1-216-296-11	SHORT 0 (AEP, UK)	
JC106	1-216-864-11	SHORT 0 (US)	
JC107	1-216-864-11	SHORT 0 (US)	
		< COIL >	
L500	1-419-476-11	INDUCTOR 250uH	
L671	1-410-750-41	INDUCTOR 0.47uH	
		< JACK >	
PJ401	1-774-700-11	JACK, PIN 6P (BUS AUDIO IN, AUDIO OUT FRONT/REAR)	
		< TRANSISTOR >	
Q21	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (AEP, UK)	
Q22	8-729-027-59	TRANSISTOR DTC144EKA-T146 (AEP, UK)	
Q331	8-729-019-00	TRANSISTOR 2SD2394-G	
Q333	8-729-047-76	TRANSISTOR FMC2A-T148	
Q335	8-729-047-76	TRANSISTOR FMC2A-T148	
Q336	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q431	8-729-920-21	TRANSISTOR DTC314TKH04	
Q441	8-729-920-21	TRANSISTOR DTC314TKH04	
Q451	8-729-920-21	TRANSISTOR DTC314TKH04	
Q461	8-729-920-21	TRANSISTOR DTC314TKH04	
Q478	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q479	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q560	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q631	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q651	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q662	8-729-047-76	TRANSISTOR FMC2A-T148	
Q663	8-729-047-76	TRANSISTOR FMC2A-T148	
Q664	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q665	8-729-106-60	TRANSISTOR 2SB1115A-YQ	
Q701	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R9	1-216-817-11	METAL CHIP 470 5% 1/16W	
R16	1-216-809-11	METAL CHIP 100 5% 1/16W	
R17	1-216-809-11	METAL CHIP 100 5% 1/16W	

MAIN

Ref. No.	Part No.	Description			Remark
R18	1-216-296-11	SHORT	0		
R21	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (AEP, UK)
R22	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (AEP, UK)
R23	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (AEP, UK)
R24	1-216-833-11	METAL CHIP	10K	5%	1/16W (AEP, UK)
R25	1-216-833-11	METAL CHIP	10K	5%	1/16W (AEP, UK)
R26	1-216-809-11	METAL CHIP	100	5%	1/16W (AEP, UK)
R27	1-216-845-11	METAL CHIP	100K	5%	1/16W (AEP, UK)
R28	1-216-857-11	METAL CHIP	1M	5%	1/16W (AEP, UK)
R29	1-216-809-11	METAL CHIP	100	5%	1/16W (AEP, UK)
R30	1-216-295-11	SHORT	0 (AEP, UK)		
R31	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R32	1-216-845-11	METAL CHIP	100K	5%	1/16W
R41	1-216-841-11	METAL CHIP	47K	5%	1/16W
R52	1-216-853-11	METAL CHIP	470K	5%	1/16W (AEP, UK)
R53	1-216-821-11	METAL CHIP	1K	5%	1/16W (AEP, UK)
R54	1-218-345-11	RES-CHIP	9.1K	5%	1/16W (AEP, UK)
R56	1-216-797-11	METAL CHIP	10	5%	1/16W (AEP, UK)
R57	1-216-817-11	METAL CHIP	470	5%	1/16W (AEP, UK)
R60	1-216-797-11	METAL CHIP	10	5%	1/16W (AEP, UK)
R102	1-216-864-11	SHORT	0		
R306	1-249-413-11	CARBON	470	5%	1/4W
R331	1-249-415-11	CARBON	680	5%	1/4W
R332	1-216-017-00	RES-CHIP	47	5%	1/10W
R403	1-216-841-11	METAL CHIP	47K	5%	1/16W
R404	1-216-809-11	METAL CHIP	100	5%	1/16W
R405	1-216-813-11	METAL CHIP	220	5%	1/16W
R406	1-216-813-11	METAL CHIP	220	5%	1/16W
R407	1-216-813-11	METAL CHIP	220	5%	1/16W
R408	1-216-813-11	METAL CHIP	220	5%	1/16W
R413	1-216-821-11	METAL CHIP	1K	5%	1/16W
R414	1-216-821-11	METAL CHIP	1K	5%	1/16W
R415	1-216-833-11	METAL CHIP	10K	5%	1/16W
R416	1-216-833-11	METAL CHIP	10K	5%	1/16W
R432	1-216-841-11	METAL CHIP	47K	5%	1/16W
R433	1-216-813-11	METAL CHIP	220	5%	1/16W
R442	1-216-841-11	METAL CHIP	47K	5%	1/16W
R443	1-216-813-11	METAL CHIP	220	5%	1/16W
R452	1-216-841-11	METAL CHIP	47K	5%	1/16W
R453	1-216-813-11	METAL CHIP	220	5%	1/16W
R457	1-216-864-11	SHORT	0		
R458	1-216-864-11	SHORT	0		
R462	1-216-841-11	METAL CHIP	47K	5%	1/16W
R463	1-216-813-11	METAL CHIP	220	5%	1/16W
R471	1-216-841-11	METAL CHIP	47K	5%	1/16W
R472	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R473	1-216-821-11	METAL CHIP	1K	5%	1/16W
R474	1-216-833-11	METAL CHIP	10K	5%	1/16W
R479	1-249-401-11	CARBON	47	5%	1/4W
R480	1-216-295-11	SHORT	0		
R482	1-216-295-11	SHORT	0		
R501	1-216-837-11	METAL CHIP	22K	5%	1/16W
R502	1-216-813-11	METAL CHIP	220	5%	1/16W
R504	1-216-821-11	METAL CHIP	1K	5%	1/16W
R505	1-216-821-11	METAL CHIP	1K	5%	1/16W
R506	1-216-821-11	METAL CHIP	1K	5%	1/16W
R507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R510	1-216-845-11	METAL CHIP	100K	5%	1/16W
R511	1-216-845-11	METAL CHIP	100K	5%	1/16W
R512	1-216-864-11	SHORT	0		
R515	1-216-864-11	SHORT	0 (US)		
R516	1-216-845-11	METAL CHIP	100K	5%	1/16W
R517	1-216-845-11	METAL CHIP	100K	5%	1/16W
R521	1-216-809-11	METAL CHIP	100	5%	1/16W
R524	1-216-833-11	METAL CHIP	10K	5%	1/16W
R525	1-216-833-11	METAL CHIP	10K	5%	1/16W
R526	1-216-821-11	METAL CHIP	1K	5%	1/16W
R527	1-216-821-11	METAL CHIP	1K	5%	1/16W
R528	1-216-833-11	METAL CHIP	10K	5%	1/16W
R534	1-216-809-11	METAL CHIP	100	5%	1/16W
R535	1-216-809-11	METAL CHIP	100	5%	1/16W
R541	1-216-845-11	METAL CHIP	100K	5%	1/16W
R542	1-216-845-11	METAL CHIP	100K	5%	1/16W (CA680X)
R543	1-216-845-11	METAL CHIP	100K	5%	1/16W (CA680)
R545	1-216-845-11	METAL CHIP	100K	5%	1/16W
R552	1-216-809-11	METAL CHIP	100	5%	1/16W
R553	1-216-809-11	METAL CHIP	100	5%	1/16W
R554	1-249-431-11	CARBON	15K	5%	1/4W
R563	1-216-833-11	METAL CHIP	10K	5%	1/16W
R564	1-216-833-11	METAL CHIP	10K	5%	1/16W
R575	1-216-809-11	METAL CHIP	100	5%	1/16W
R576	1-216-809-11	METAL CHIP	100	5%	1/16W
R577	1-216-809-11	METAL CHIP	100	5%	1/16W
R602	1-216-073-00	METAL CHIP	10K	5%	1/10W
R605	1-216-295-11	SHORT	0		
R609	1-216-821-11	METAL CHIP	1K	5%	1/16W
R631	1-249-425-11	CARBON	4.7K	5%	1/4W
R632	1-216-841-11	METAL CHIP	47K	5%	1/16W
R633	1-216-841-11	METAL CHIP	47K	5%	1/16W
R634	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R636	1-216-845-11	METAL CHIP	100K	5%	1/16W
R651	1-216-049-11	RES-CHIP	1K	5%	1/10W
R652	1-249-437-11	CARBON	47K	5%	1/4W
R653	1-216-833-11	METAL CHIP	10K	5%	1/16W
R654	1-216-833-11	METAL CHIP	10K	5%	1/16W
R664	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R665	1-249-393-11	CARBON	10	5%	1/4W
R666	1-249-393-11	CARBON	10	5%	1/4W
R667	1-249-393-11	CARBON	10	5%	1/4W
R668	1-249-393-11	CARBON	10	5%	1/4W
R671	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R672	1-216-809-11	METAL CHIP	100	5%	1/16W
R673	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R700	1-216-809-11	METAL CHIP	100	5%	1/16W
R701	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R702	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R707	1-216-049-11	RES-CHIP	1K	5%	1/10W
R710	1-216-809-11	METAL CHIP	100	5%	1/16W
R711	1-216-809-11	METAL CHIP	100	5%	1/16W
R712	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R713	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R714	1-249-413-11	CARBON	470	5%	1/4W (CA680X)
R714	1-249-409-11	CARBON	220	5%	1/4W (CA680)
R715	1-216-809-11	METAL CHIP	100	5%	1/16W
R716	1-216-809-11	METAL CHIP	100	5%	1/16W
R717	1-216-809-11	METAL CHIP	100	5%	1/16W
R718	1-216-809-11	METAL CHIP	100	5%	1/16W
R719	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< SWITCH >			
S701	1-771-540-11	SWITCH, PUSH (1 KEY) (NOSE DETECT)			
S702	1-692-431-21	SWITCH, TACTILE (RESET)			
		< THERMISTOR >			
TH600	1-801-792-21	THERMISTOR, POSITIVE			
		< TUNER UNIT >			
TU10	A-3282-061-A	TUNER UNIT (TUX-020)			
		< VIBRATOR >			
X51	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHz) (AEP, UK)			
X501	1-781-294-21	VIBRATOR, CRYSTAL (18.432MHz) (US)			
X501	1-795-134-11	VIBRATOR, CRYSTAL (18.432MHz) (AEP, UK)			
X502	1-567-098-71	VIBRATOR, CRYSTAL (32.768kHz)			

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	A-3326-727-A	SENSOR BOARD, COMPLETE
		**********

For the parts on the SENSOR board, replace the entire mounted board.

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*	A-3326-729-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C10	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C11	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C102	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C105	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C106	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C107	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C108	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C109	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C201	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C202	1-135-259-11	TANTALUM CHIP	10uF	20%	6.3V
C301	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C305	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C306	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C307	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C308	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C309	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C310	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C311	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C314	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C315	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C316	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C317	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C318	1-104-852-11	TANTALUM CHIP	22uF	20%	6.3V
C319	1-104-852-11	TANTALUM CHIP	22uF	20%	6.3V
C320	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C321	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C322	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C324	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C325	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C326	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C327	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C328	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C329	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C330	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C333	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C336	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C339	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C342	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C343	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C344	1-104-852-11	TANTALUM CHIP	22uF	20%	6.3V
C345	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C346	1-104-852-11	TANTALUM CHIP	22uF	20%	6.3V
C347	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C349	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C350	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C351	1-104-852-11	TANTALUM CHIP	22uF	20%	10V
C352	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C353	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C356	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C357	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C358	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C359	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C362	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C363	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C401	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C403	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C501	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C504	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C505	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C506	1-104-852-11	TANTALUM CHIP	22uF	20%	10V
C510	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C511	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C513	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

SERVO

Ref. No.	Part No.	Description			Remark
C514	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C515	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN101	1-815-352-11	CONNECTOR, BOARD TO BOARD 30P			
CN102	1-573-929-21	CONNECTOR, FFC/FPC (ZIF) 20P			
* CN103	1-573-920-11	CONNECTOR, FFC/FPC (ZIF) 11P			
		< DIODE >			
D301	8-719-977-03	DIODE DTZ5.6B			
D401	8-719-157-93	DIODE RD3.0SB2			
		< IC >			
IC101	8-759-571-84	IC PCM1718E/2K			
IC301	8-752-404-64	IC CXD2662R			
IC302	8-752-080-95	IC CXA2523AR			
IC303	8-759-685-74	IC BH6518FS-E2			
IC304	8-759-096-87	IC TC7WU04FU (TE12R)			
IC305	8-759-040-83	IC BA6287F			
IC307	8-759-671-27	IC MSM51V4400E-70TS-K			
IC401	8-759-385-17	IC NJM4580E (TE2)			
IC501	8-752-921-42	IC CXP84340-231Q			
IC502	8-759-321-61	IC HD74HC244FP-EL			
		< COIL >			
L101	1-412-058-11	INDUCTOR CHIP	10uH		
L102	1-412-058-11	INDUCTOR CHIP	10uH		
L301	1-412-058-11	INDUCTOR CHIP	10uH		
L302	1-412-058-11	INDUCTOR CHIP	10uH		
L501	1-412-058-11	INDUCTOR CHIP	10uH		
		< TRANSISTOR >			
Q301	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q302	8-729-026-49	TRANSISTOR	2SA1037AK-T146-R		
Q303	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q401	8-729-920-85	TRANSISTOR	2SD1664-QR		
Q402	8-729-106-60	TRANSISTOR	2SB1115A-YQ		
Q403	8-729-421-22	TRANSISTOR	UN2211		
		< RESISTOR >			
R101	1-216-073-00	METAL CHIP	10K	5%	1/10W
R102	1-216-833-11	METAL CHIP	10K	5%	1/16W
R104	1-216-049-11	RES-CHIP	1K	5%	1/10W
R201	1-216-073-00	METAL CHIP	10K	5%	1/10W
R202	1-216-049-11	RES-CHIP	1K	5%	1/10W
R301	1-216-809-11	METAL CHIP	100	5%	1/16W
R302	1-216-809-11	METAL CHIP	100	5%	1/16W
R303	1-216-809-11	METAL CHIP	100	5%	1/16W
R304	1-216-809-11	METAL CHIP	100	5%	1/16W
R305	1-216-809-11	METAL CHIP	100	5%	1/16W
R306	1-216-809-11	METAL CHIP	100	5%	1/16W
R307	1-216-809-11	METAL CHIP	100	5%	1/16W
R308	1-216-809-11	METAL CHIP	100	5%	1/16W
R310	1-216-821-11	METAL CHIP	1K	5%	1/16W
R312	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R316	1-216-821-11	METAL CHIP	1K	5%	1/16W

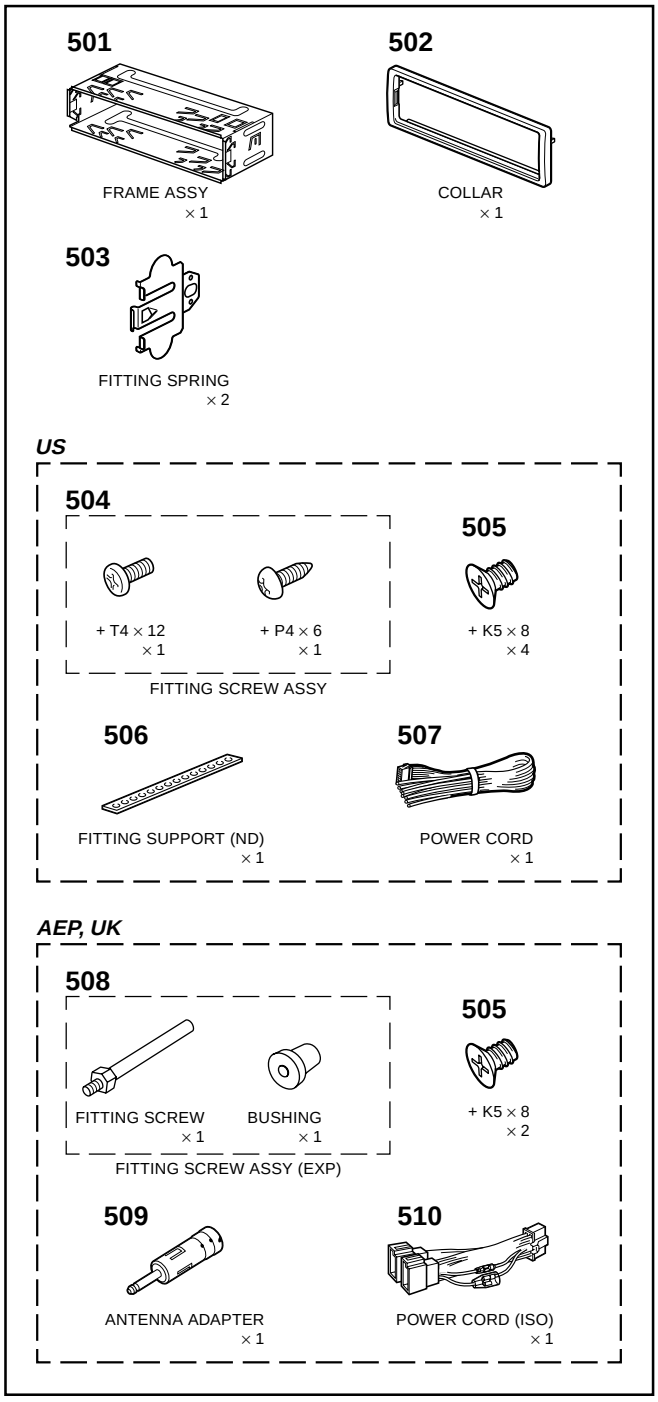
Ref. No.	Part No.	Description			Remark
R317	1-216-821-11	METAL CHIP	1K	5%	1/16W
R318	1-216-833-11	METAL CHIP	10K	5%	1/16W
R319	1-216-845-11	METAL CHIP	100K	5%	1/16W
R320	1-216-855-11	METAL CHIP	680K	5%	1/16W
R324	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R325	1-216-821-11	METAL CHIP	1K	5%	1/16W
R327	1-216-821-11	METAL CHIP	1K	5%	1/16W
R328	1-216-811-11	METAL CHIP	150	5%	1/16W
R329	1-216-819-11	METAL CHIP	680	5%	1/16W
R330	1-216-853-11	METAL CHIP	470K	5%	1/16W
R331	1-216-809-11	METAL CHIP	100	5%	1/16W
R332	1-216-809-11	METAL CHIP	100	5%	1/16W
R333	1-216-819-11	METAL CHIP	680	5%	1/16W
R334	1-216-809-11	METAL CHIP	100	5%	1/16W
R335	1-216-815-11	METAL CHIP	330	5%	1/16W
R336	1-216-853-11	METAL CHIP	470K	5%	1/16W
R337	1-216-853-11	METAL CHIP	470K	5%	1/16W
R338	1-216-994-11	RES-CHIP	13K	5%	1/16W
R340	1-218-739-11	RES-CHIP	91K	5%	1/16W
R342	1-216-994-11	RES-CHIP	13K	5%	1/16W
R344	1-216-994-11	RES-CHIP	13K	5%	1/16W
R346	1-216-842-11	METAL CHIP	56K	5%	1/16W
R348	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R349	1-216-025-11	RES-CHIP	100	5%	1/10W
R350	1-216-797-11	METAL CHIP	10	5%	1/16W
R351	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R352	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R353	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R354	1-216-833-11	METAL CHIP	10K	5%	1/16W
R355	1-216-833-11	METAL CHIP	10K	5%	1/16W
R356	1-216-833-11	METAL CHIP	10K	5%	1/16W
R357	1-216-017-00	RES-CHIP	47	5%	1/10W
R359	1-216-797-11	METAL CHIP	10	5%	1/16W
R360	1-216-864-11	SHORT	0		
R361	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R362	1-216-811-11	METAL CHIP	150	5%	1/16W
R365	1-216-864-11	SHORT	0		
R367	1-216-864-11	SHORT	0		
R401	1-216-073-00	METAL CHIP	10K	5%	1/10W
R402	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R403	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R404	1-216-809-11	METAL CHIP	100	5%	1/16W
R405	1-218-692-11	METAL CHIP	1K	0.5%	1/16W
R406	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R407	1-216-845-11	METAL CHIP	100K	5%	1/16W
R501	1-216-821-11	METAL CHIP	1K	5%	1/16W
R502	1-216-821-11	METAL CHIP	1K	5%	1/16W
R503	1-216-821-11	METAL CHIP	1K	5%	1/16W
R504	1-216-821-11	METAL CHIP	1K	5%	1/16W
R505	1-216-821-11	METAL CHIP	1K	5%	1/16W
R506	1-216-845-11	METAL CHIP	100K	5%	1/16W
R507	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R510	1-216-864-11	SHORT	0		
R511	1-216-847-11	METAL CHIP	150K	5%	1/16W
R512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R516	1-216-809-11	METAL CHIP	100	5%	1/16W
R517	1-216-809-11	METAL CHIP	100	5%	1/16W
R518	1-216-809-11	METAL CHIP	100	5%	1/16W

SERVO **SUB**

Ref. No.	Part No.	Description			Remark
R519	1-216-809-11	METAL CHIP	100	5%	1/16W
R520	1-216-809-11	METAL CHIP	100	5%	1/16W
R521	1-216-809-11	METAL CHIP	100	5%	1/16W
R522	1-216-821-11	METAL CHIP	1K	5%	1/16W
R523	1-216-821-11	METAL CHIP	1K	5%	1/16W
R524	1-216-821-11	METAL CHIP	1K	5%	1/16W
R525	1-216-845-11	METAL CHIP	100K	5%	1/16W
R526	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R527	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R528	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R529	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R530	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R531	1-216-845-11	METAL CHIP	100K	5%	1/16W
R532	1-216-809-11	METAL CHIP	100	5%	1/16W
R533	1-216-845-11	METAL CHIP	100K	5%	1/16W
R534	1-216-845-11	METAL CHIP	100K	5%	1/16W
R535	1-216-845-11	METAL CHIP	100K	5%	1/16W
R537	1-216-809-11	METAL CHIP	100	5%	1/16W
R538	1-216-845-11	METAL CHIP	100K	5%	1/16W
R539	1-216-845-11	METAL CHIP	100K	5%	1/16W
R540	1-216-845-11	METAL CHIP	100K	5%	1/16W
R542	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB503	1-233-412-11	RES, CHIP NETWORK 1K (3216)			
		< THERMISTOR >			
TH501	1-810-421-11	THERMISTOR NTH5G36B103K01TE			
		< VIBRATOR >			
X301	1-795-144-21	OSCILLATOR, CERAMIC (45MHz)			
X501	1-760-365-11	VIBRATOR, CERAMIC (10MHz)			
**********					
*	1-680-042-11	SUB BOARD **********			
	1-792-195-11	CABLE, FLEXIBLE FLAT (14 CORE)			
*	3-039-443-11	SHEET (CONNECTOR)			
		< CAPACITOR >			
C814	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C819	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CNP810	1-794-064-12	SOCKET, CONNECTOR 14P			
		< DIODE >			
D810	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D817	8-719-056-93	DIODE UDZ-TE-17-18B			
D818	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D821	8-719-056-83	DIODE UDZ-TE-17-6.8B			
		< LED >			
LED810	8-719-082-38	LED CL-270SR-C-TS (DISC SLOT ILLUMINATION) (CA680X)			
LED810	8-719-082-40	LED CL-270FG-C-TS (DISC SLOT ILLUMINATION) (CA680)			
		< SWITCH >			
LSW810	1-771-883-11	SWITCH, TACTILE (WITH LED) (⏏) (CA680X)			
LSW810	1-786-113-11	SWITCH, TACT (WITH LED) (⏏) (CA680)			
**********					
		MISCELLANEOUS **********			
22	1-792-195-11	CABLE, FLEXIBLE FLAT (14 CORE)			
24	1-776-207-82	CORD (WITH CONNECTOR) (POWER) (US)			
24	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER) (AEP, UK)			
64	1-694-780-11	CONDUCTIVE BOARD, CONNECTION			
153	1-757-311-11	CABLE, FLEXIBLE FLAT (11 CORE)			
⚠165	8-583-065-03	OPTICAL PICK-UP KMS-241C/J1RP			
CNP810	1-794-064-11	SOCKET, CONNECTOR 14P			
LCD901	1-804-295-11	DISPLAY PANEL, LIQUID CRYSTAL (CA680)			
LCD901	1-804-295-21	DISPLAY PANEL, LIQUID CRYSTAL (CA680X)			
M901	A-3301-407-A	MOTOR ASSY, SP (SPINDLE)			
M902	A-3291-190-A	MOTOR ASSY, SL (SLED)			
M903	X-3379-451-1	MOTOR ASSY, LO (LOADING)			
**********					
		********** HARDWARE LIST **********			
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)			
#2	7-621-772-20	SCREW +B 2X5			
#3	7-627-553-28	SCREW, PRECISION +P 2X2.5			
#4	7-685-790-01	SCREW +PTT 2.6X4 (S)			
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S			
#6	7-685-793-09	SCREW +PTT 2.6X8 (S)			
#7	7-685-794-09	SCREW +PTT 2.6X10 (S)			
#8	7-685-797-09	SCREW +PTT 2.6X16 (S)			
#9	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT			
#11	7-685-851-04	SCREW +BVTT 2X4 (S)			
#12	7-624-102-04	STOP RING 1.5, TYPE-E			
#13	7-627-852-37	PRECISION SCREW +P1.7X1.8 TYPE3			
#14	7-621-772-08	SCREW +B 2X3			
#15	7-621-555-10	SCREW +K 2X3			
**********					
		ACCESSORIES & PACKING MATERIALS **********			
	3-227-351-11	MANUAL, INSTRUCTION (ENGLISH) (CA680X: US)			
	3-227-352-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH) (CA680X: US)			
	3-227-353-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN) (CA680/CA680X: AEP, UK)			
	3-227-354-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN) (CA680/CA680X: AEP, UK)			
	X-3378-490-1	CASE (PANEL) ASSY (for FRONT PANEL)			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	X-3373-602-1	FRAME ASSY	
502	3-040-979-01	COLLAR	
503	3-233-644-01	SPRING, FITTING	
504	X-3368-725-1	SCREW ASSY, FITTING (US)	
505	3-934-325-01	SCREW, +K (5X8) TAPPING	
506	3-924-961-01	SUPPORT (ND), FITTING (US)	
507	1-776-207-82	CORD (WITH CONNECTOR) (POWER) (US)	
508	X-3366-405-1	SCREW ASSY (EXP), FITTING (AEP, UK)	
509	1-465-459-21	ADAPTER, ANTENNA (AEP, UK)	
510	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	(AEP, UK)



MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.05	Change of Part No. for SPRING, FITTING (ECN-CSA04727)
1.0	2001.02	New